



The nabc language provides the ability to describe some adiaستمatic neumes, for now just the St. Gallen and Laon (Metz notation family) style. The language is partially based on Dom Eugène Cardine’s Table of neumatic signs, but for more complex neumes doesn’t always match how the neumes are called; instead attempts to make it easier to compose complex neumes from basic glyphs. To describe adiaستمatic neumes in gabc, the header should contain nabc-lines: 1; line, like:

```
nabc-lines: 1;
(f3) AL(ef~|ta>)le(fg/hggf|peclhgpilú(ef~|ta>)ia.(f.|ta-) (,)
(ii//|bv-|gh!ivHG//|vi-hhppu2su1sut1|fhg/|to|eef.|pt) (;)
```

The nabc snippets are then separated by | character from gabc snippets or other nabc snippets. Every gabc snippet may be followed by multiple nabc snippets. The maximum number of consecutive nabc snippets is the number declared in the header field nabc-lines: x;. After reaching that number of consecutive nabc snippets another gabc snippet followed by nabc snippets can follow. A single nabc snippet is not split into multiple lines, so for larger melismatic pieces it is desirable to synchronize the gabc snippets with corresponding nabc snippets. With nabc-lines: 1; the gabc and nabc snippets form an alternating pattern, like (gabc|nabc|gabc|nabc|gabc), in this case the last gabc snippet does not have any corresponding nabc neumes. With nabc-lines: 2; the snippets ordering could be e.g. (gabc|nabc1|nabc2|gabc|nabc1).

Each nabc snippet consists of a sequence of *complex neume descriptors*. Each *complex neume descriptor* consists of optional *horizontal spacing adjustment descriptor*, then *complex glyph descriptor*, optionally followed by a sequence of *subpunctis and prepunctis descriptors*, optionally followed by a sequence of *significant letter descriptors*.

The *horizontal spacing adjustment descriptor* consists of a sequence of horizontal spacing adjustment characters / and `.

- // move by nabclargerspace skip to the right
- / move by nabcinterelementsplace skip to the right
- `` move by nabclargerspace skip to the left
- ` move by nabcinterelementsplace skip to the left

The *complex glyph descriptor* consists of a *glyph descriptor*, optionally followed by a sequence of other *glyph descriptors*, all separated by the ! character. This is used to describe more complex glyphs, where certain basic glyphs are connected together.

Each *glyph descriptor* consists of a *basic glyph descriptor*, followed by optional *glyph modifiers*, followed by optional *pitch descriptor*.

The following description is for the St. Gall family of neumes, when using the gregall or gresgmodern fonts. For details on Laon (Metz notation family) neumes see 4.

The *basic glyph descriptor* is a two-letter string from the following table:

vi ✓ virga	po ✓ porrectus	tr ✓ torculus resupinus	tv // trivirga	pq ✓ pes quassus
pu . punctum	to ✓ torculus	st , stropha	pr ✓ pressus maior	q1 ✓ quilisma (3 loops)
ta . tractulus	ci ✓ climacus	ds .. distropha	pi ~ pressus minor	qi ✓ quilisma (2 loops)
gr \ gravis	sc ✓ scandicus	ts ... tristropha	vs ✓ virga strata	pt ✓ pes stratus
c1 ✓ clivis	pf ✓ porrectus flexus	tg : trigonus	or ✓ oriscus	ni nihil
pe ✓ pes	sf ✓ scandicus flexus	bv ✓ bivirga	sa ✓ scandicus	

The glyph modifiers is a possibly empty sequence of following characters optionally followed by a number:






- S modification of the mark
- G modification of the grouping (neumatic break)
- M melodic modification
- - addition of episema
- > augmentive liquescence
- ~ diminutive liquescence





If Dom Cardine’s table contains multiple glyphs with the same modifiers, a positive number is added afterwards. E.g. for augmentive liquescent clivis the table shows two different glyphs, the ancus c1> ✓ and then another neume - c1>1 ✓, the first neume does not contain any number after it, while the 1 indicates first variant.

The *pitch descriptor* allows to specify the vertical position of the neume. There are no staves, so the vertical position is only rough. For pitches the same letters as in gabc are used, a through n and p. If the *pitch descriptor* is missing, the default is hf, otherwise it consists of the letter h followed by the pitch letter. Within the *complex glyph descriptor*, each *basic glyph descriptor* has its own pitch, but in the current fonts there are no glyphs with different relative pitches, so if you use a *pitch descriptor* on any of the *basic glyph descriptors* in the *complex glyph descriptor*, it is best to use the same one on all the other *basic glyph descriptors* in the same *complex glyph descriptor*.









The *subpunctis and prepunctis descriptor* consists of the letters su for subpunctis or pp for prepunctis, followed optionally by a modifier letter from the following table and finally a mandatory positive number of repetitions. If the modifier letter is missing, it is a punctum.

- t . tractulus
















































- u  tractulus with episema
- v  tractulus with double episema
- w  , gravis
- x  , liquescens stropha
- y  , gravis with episema

Only subpunctis are normally used in neume classification, the prepunctis is a nabc concept to describe the rising sequence of punctis, tractulis etc. in the left low corner of some neume. While e.g. vipp2  describes the same neume as sc , the former form allows better control on how many punctis or tractulis or tractulis with episema etc. there are. Some examples: ppt3  stands for 3 raising tractulis with episema, while su1sut1sux1  stands for a punctum, followed by tractulus, followed by liquescens stropha.

The *significant letter descriptor* consists of the letters 1s, followed by a shorthand of the significant letter or common group of them, followed by a number - a rough position relative to the *complex glyph descriptor* glyph with prepunctis and subpunctis attached to it. If more than one *significant letter descriptor* is used on the same *complex neume descriptors* for the same position, then they are ordered in the order they are written in the nabc snippet at that position. The position numbers are:

- |  |   |  |
|--|---|--|
| 1  left upper corner      | 2  above the neume | 3  right upper corner        |
| 4  to the left of the neume |   | 6  to the right of the neume |
| 7  left bottom corner       | 8  below the neume | 9  right bottom corner       |

The shorthands, including the 1s prefix, which should be followed by the above mentioned position digit:


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lsam  altius mediocriter	lsk  klenche	lssb  sursum bene
lsb  bene	lsl  levare	lssc  sursum celeriter
lsc  celeriter	lslb  levare bene	lssimil  similiter
lscm  celeriter mediocriter	lslc  levare celeriter	lssimul  simul
lscw  coniunguntur	lslen  leniter	lssm  sursum mediocriter
lscw  celeriter (wide form)	lslm  levare mediocriter	lsst  sursum tenere
lsd  deprimatur	lslp  levare parvum	lssta  statim
lse  equaliter	lslt  levare tenere	lst  tenere
lseq  equaliter	lsm  mediocriter	lstb  tenere bene
lsew  equaliter (wide form)	lsmoll  molliter	lstm  tenere mediocriter
lsfid  fideliter	lsp  parvum	lstw  tenere (wide form)
lsfr  frendor	lspar  paratim	lsv  valde
lsg  gutture	lspfec  perfecte	lsvol  volubiliter
lsi  iusum	lspm  parvum mediocriter	lsx  expectare
lsim  iusum mediocriter	lspulcre  pulcre	

Nihil - ni is an artificial empty base glyph around which it is possible to place significant letters and/or subpunctis and/or prepunctis. Finally a commented example of a nabc snippet:


```
``po///pe>2lse7ls13qlhh!vshhppt1sut2q1>ppu3
```




```` stands for a negative horizontal skip (move to the left) by nabcinterelementsace and nabclargerspace.

po  is a basic porrectus, at the default pitch (height hf).






























/// stands for a horizontal skip (move to the right) by two times nabclargerspace.

pe>2lse7ls13  stands for the 3rd augmentive liquescent form of podatus (epiphonus with tractulus, see the following page) at the default pitch, with equaliter in the low left corner and levare in the upper right corner.





qlhh!vshhppt1sut2  stands for a 3 loop quilisma joined with virga strata, both at relative pitch 2 above the default one, with a single tractulus before it and two subpunctis - tractulis.

q1>ppu3  is a 3 loop liquescent quilisma with 3 tractulis with episema before it.

The *basic glyph descriptor* for Laon neumes is very similar to the one used for St. Gall neumes, but with uncinus and oriscus-clivis added and strophæ, 2 loops quilisma and gravis removed:























|                                                                                                     |                                                                                                         |                                                                                                    |                                                                                                    |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| un  uncinus        | po  porrectus          | ds  distropha     | or  oriscus     |
| vi  virga          | to  torculus           | ts  tristropa     | sa  scandicus   |
| pu  punctum        | ci  climacus           | tg  trigonus      | pq  pes quassus |
| ta  tractulus      | sc  scandicus          | bv  bivirga       | ql  quilisma    |
| gr  gravis         | pf  porrectus flexus   | tv  trivirga      | pt  pes stratus |
| cl  clivis         | sf  scandicus flexus   | pr  pressus maior | ni  nihil       |
| oc  oriscus-clivis | tr  torculus resupinus | pi  pressus minor |                                                                                                    |
| pe  pes            |                                                                                                         | vs  virga strata  |                                                                                                    |

The *subpunctis and prepunctis descriptor* consists of the letters su for subpunctis or pp for prepunctis, followed optionally by a modifier letter from the following table and finally a mandatory positive number of repetitions. If the modifier letter is missing, it is a punctum.
















- n  uncinus
- q  quilisma
- z  virga
- x  cephalicus

The *significant letter descriptor* for Laon neumes allows another position, 5, which stands for inside the neume. The exact position of the letter depends on the glyph, if there is no glyph with the neume inside of it, it can't be positioned inside the neume.

The shorthands, including the ls prefix, which should be followed by the above mentioned position digit for Laon neumes are:

|                                                                                                                                   |                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| lsa  augete                                      | lsn1  non levare         |
| lsc  celeriter                                   | lsnt  non tenere         |
| lseq  equaliter                                  | lsm  mediocriter         |
| lseq-  equaliter                                | lsmd  mediocriter       |
| lsequ  equaliter                               | lss  sursum            |
| lsf  fastigium                                 | lssimp  simpliciter    |
| lsh  humiliter                                 | lssimpl  simpliciter   |
| lshn  humiliter nectum                         | lssp  sursum parum     |
| lshp  humiliter parum                          | lsst  sursum tenere    |
| lsl  levare                                    | lst  tenere            |
| lsn  non (tenere), negare, nectum, naturaliter | lsth  tenere humiliter |

For the Tironian notes the form of the *significant letter descriptor* starts with the lt prefix followed by letters from the following list, followed by above mentioned position digit (5 can't be used):

|                                                                                                                       |                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| lti  iusum                         | ltsj  subjice         |
| ltdo  deorsum                      | ltsl  saltim          |
| ltdr  devertit                     | ltsn  sonare          |
| ltdx  devexum                      | ltsp  supra           |
| ltps  prode sub eam (trade subtus) | ltsr  sursum          |
| ltqm  quam mox                     | ltst  saltate (salte) |
| ltsb  sub                          | ltus  ut supra        |
| ltse  seorsum                      |                                                                                                          |

| Names of Symbols   | Simple Symbols | Symbols differentiated by              |                            |                    |                                  | Symbols indicating a special meaning |               |            |
|--------------------|----------------|----------------------------------------|----------------------------|--------------------|----------------------------------|--------------------------------------|---------------|------------|
|                    |                | the addition                           |                            | the modification   |                                  | melodic                              | phonetic      |            |
|                    |                | of letters                             | of episemas                | of the mark        | of the grouping (neumatic break) |                                      | augment.      | diminut.   |
| virga              | vi             | vilsc3 vilst1 vippt1lsc2               | vi-                        |                    |                                  |                                      | vi>           |            |
| tractulus          | ta             | talsc3 talst2                          |                            |                    |                                  |                                      | ta>           |            |
| punctum            | pu             |                                        |                            |                    |                                  |                                      | st visuisux1  |            |
| gravis             | gr             |                                        |                            |                    |                                  |                                      |               |            |
| clivis             | cl             | cl1sc3 cl1st2 cl1-1st2                 | cl- clS-                   | clS clS1           |                                  | clM                                  | cl> cl>1      | cl-        |
| pes                | pe             |                                        | pe- pe-1                   | peS                | peG                              | peG                                  | pe> pe>1 pe>2 | pe-        |
| porrectus          | po             | polsc2                                 | po- po-1                   |                    | poG                              |                                      | po>           | po-        |
| torculus           | to             | to1sc3 to1st2 to1-1st2                 | to- to-1                   | toS toS1 toS2 toS3 | toG                              | toM toM1                             | to>           | to>        |
| climacus           | ci ci1         | cilsc3 cilst2                          | ci-                        | ciS ciS1 visut1su2 | ciG ciG1                         | ciM                                  | ci>           | ci-        |
| scandicus          | sc             |                                        | sc-                        | scS                | scG scG1                         | scM1                                 | sc>           | sc-        |
|                    | sc1            |                                        | vi-hevi-hivi-hm            |                    |                                  | vihevihivihm                         |               |            |
| porrectus flexus   | pf             | pflsc2 pfl1sc2 pflst2                  | pf-                        | pfS                | pfM                              | pfM                                  | pf>           | pf-        |
| pes subbipunctis   | pesu2          | vippt1su2lsc3                          | pe-su2 pe-1su2<br>pe-1sut2 | peSsu2 peSsut2     | vippt1su2<br>toS2sut1            | vi-!ci pesu1suw1                     | pesu1sux1     | to>        |
| scandicus flexus   | sf             | sflsc3                                 | sf-                        | sfS                | vi-tohk peclhi                   | sfM                                  | cl>ppt2       | sc>        |
| torculus resupinus | tr             | trlsc2 trlst2                          | tr-1                       | trS                | trG trG1 trG2                    | trM                                  | tr>           | tr-        |
| apostropha         | st             |                                        | st-                        | stS                |                                  |                                      | st>           |            |
| distropha          | ds             | ds-lsx6                                | ds-                        |                    |                                  |                                      | ds>           |            |
| tristropha         | ts             | ts-lsx6                                | ts-                        |                    |                                  | tsM                                  | ts>           |            |
| trigonus           | tg tg1         |                                        |                            | tgS tgS1 tgS3      |                                  | tgM                                  |               | ds>        |
| bigirga & trivirga | bv tv          |                                        | bv- tv-                    |                    |                                  |                                      | bv>           |            |
| pressus            | pr pi          | prlsc2 pr-lsc2 prlst2<br>pilsc2 pilst2 | pr-                        |                    |                                  | prM                                  | pr> pi>       | vs><br>or> |
| virga strata       | vs             | vslsc3 vslst2                          | vs-                        |                    |                                  |                                      | vs>           | ta>        |
| oriscus            | or             |                                        |                            |                    |                                  |                                      | or>           |            |
| salicus            | sa sa1         | salsfr1 saM1l1sfr1                     | sa- sa-1                   |                    | saG                              | saM saM1 saM2                        | sa> sa->1     | pe>2       |
| pes quassus        | pq             | pqlsfr1                                | pq-                        |                    |                                  |                                      | pq>           |            |
| quilisma           | ql qi          |                                        | ql- qi-                    |                    |                                  |                                      | ql> qi>       |            |
| pes stratus        | pt             |                                        |                            |                    |                                  |                                      |               |            |

Table from Cardine's Gregorian Semiology, pp. 12-13 with nabc strings and gregall glyphs.

| Name of Symbols          | Simple Symbols | Symbols differentiated by               |                                             |                                    | Symbols indicating a special meaning |             |                |
|--------------------------|----------------|-----------------------------------------|---------------------------------------------|------------------------------------|--------------------------------------|-------------|----------------|
|                          |                | the modification                        |                                             | the addition of letters            | melodic                              | phonetic    |                |
|                          |                | of the mark                             | of the grouping (neumatic break)            |                                    |                                      | Liquescence |                |
|                          |                |                                         | augment.                                    | diminut.                           |                                      |             |                |
| uncinus                  | un             |                                         |                                             |                                    |                                      |             |                |
| punctum                  | pu             |                                         |                                             |                                    |                                      |             |                |
| virga                    | vi             | viS vipp2su2vihh                        |                                             |                                    |                                      | vi>1        |                |
| tractulus                | ta             | ds ts                                   |                                             | talst2 tslsc2lst2                  |                                      | ta>2        |                |
| clivis                   | cl             |                                         | clG                                         | c1l1sn9 c1l1st9 c1G1sa5            | clG1 clM                             | cl> cl>1    | vi> ta>2       |
| pes                      | pe             |                                         | peG                                         | pelsn3 pelst2 pelsc2               |                                      | pe>1        | ta>            |
| porrectus                | po             |                                         | poG                                         |                                    | poM                                  | po>         |                |
| torculus                 | to             | toS1                                    | toG                                         | toG1sa5 toS1sa5 toSsun11sa5 tolst9 |                                      | to>         |                |
| climacus                 | ci             | pusu1sun1 visu2 unsun2                  |                                             | visu2lst3                          |                                      |             | cl>1           |
| scandicus                | sc sc1         | vippn1pp1 vippn2                        | pevihl                                      | sclst2 pelst2vihl pelsa2vihl       |                                      | vi>1pp2     | ta>ppn1 ta>pp2 |
| porrectus flexus         | pf1            | pfS                                     | unhg'to po'un                               | unhg1st2'to po'unlsa2              | pfM                                  | pf>         |                |
| (pes subbipunctis)       | tosu1          | tosun1                                  | vippn1su2 unppn1sun2                        | tosu11sc5 tosun11sa5               |                                      |             |                |
|                          |                |                                         | visulsun1                                   | unlst2'puhisu1sun1                 |                                      |             |                |
| scandicus flexus         | sf             |                                         | unhd'to sfG                                 | unhd1st2'to pelst2clhh             |                                      |             |                |
| torculus resupinus       | tr             | trS                                     | poppn1 pe'peG                               | trS1sc1 trlst3 trlst9              |                                      | tr>         | pe'ta>         |
| clivis + pes or torculus | cl!pe cl!to    | → toS!pe                                | toS!to                                      |                                    |                                      |             |                |
| oriscus                  | or or1         | isolated & at the syllabic articulation | ql                                          |                                    |                                      | or>         |                |
|                          |                |                                         | oc oc!vi pq pq1                             |                                    |                                      |             |                |
|                          |                | inside the neume                        | tg                                          |                                    |                                      |             |                |
|                          |                |                                         | cl1!or cl1!pi cl1!pi!vi cl1!pi!cl cl1!pi!to |                                    |                                      |             |                |
|                          |                |                                         | to!or                                       |                                    |                                      |             |                |
|                          |                |                                         | sa sal                                      |                                    |                                      |             |                |
|                          |                |                                         | vs vsG                                      |                                    |                                      |             |                |
| quilisma                 | ql ql!cl ql!po |                                         |                                             |                                    |                                      |             |                |
| pes stratus              |                | pt1                                     |                                             |                                    | pe!or                                |             |                |

Table from Cardine's Gregorian Semiology, pp. 14-15 with nabc strings and grelaon glyphs.

Table with nabc strings and corresponding gregall and gresgmodern glyphs:

|               |         |         |             |         |         |               |         |         |
|---------------|---------|---------|-------------|---------|---------|---------------|---------|---------|
| bv            |         | //      | clSsut1sux1 | missing |         | lsvol         |         | missing |
| bv-           |         | //      | clSsut2     |         |         | lsx           |         |         |
| bv-sut2       |         | missing | clSsuu1su2  |         | missing | ni            |         |         |
| bv-sut3sux1   |         | missing | clSsux1     | missing |         | or            |         |         |
| bv>           |         | //      | cllsc3      |         | missing | or>           |         |         |
| ci            |         | ∴       | cllst2      |         | missing | pe            |         |         |
| ci-           |         | ∴       | clpp2       |         |         | pe!vi         |         |         |
| ci-pp2        |         | ∴       | clppt1      |         |         | pe-           |         |         |
| ci1           |         | ∴       | clppt2      |         |         | pe-1          |         |         |
| ci>           |         | ∴       | cl~         |         |         | pe-1su1sut1   |         |         |
| ciG           |         | ∴       | ds          |         |         | pe-1su1sut2   |         |         |
| ciG1          |         | ∴       | ds-         |         |         | pe-1su1suu1   |         |         |
| ciM           |         | ∴       | ds>         |         |         | pe-1su1suu2   |         |         |
| ciM-          |         | ∴       | dslsx6      |         | missing | pe-1su1suw1   |         |         |
| ciS           |         | ∴       | gr          |         |         | pe-1su2       |         |         |
| ciS1          |         | ∴       | gr-         |         |         | pe-1sut1suw1  |         | missing |
| ciSppt1       |         | ∴       | gr-lsc6     |         | missing | pe-1sut1sux1  |         |         |
| cilsc3        |         | missing | lsal        |         |         | pe-1sut2      |         |         |
| cippt1        |         | ∴       | lsam        |         |         | pe-1sut3      |         |         |
| cippt1lsc3    |         | missing | lsb         |         |         | pe-1suu1su2   |         | missing |
| cippu1        |         | ∴       | lsc         |         |         | pe-1suw2      |         |         |
| cippu1lsc3    |         | missing | lscm        |         |         | pe->          |         |         |
| ci~           |         | ∴       | lscoc       |         |         | pe->1         |         |         |
| cl            |         | ∴       | lscw        |         | missing | pe-su1sut1    |         |         |
| cl!cl>1       |         | ∴       | lsd         |         | missing | pe-su2        |         |         |
| cl!clS        |         | ∴       | lse         |         |         | pe-su2suy1    |         |         |
| cl!clSsut2    |         | ∴       | lseq        |         | missing | pe-su3sut1    |         |         |
| cl!pi         |         | ∴       | lsew        |         | missing | pe-su4        |         |         |
| cl!pilscl1st3 |         | missing | lsfid       |         | missing | pe>           |         |         |
| cl!pilscl2    |         | missing | lsfr        |         |         | pe>1          |         |         |
| cl!pisu1      |         | missing | lsg         |         |         | pe>2          |         |         |
| cl!pisu1st2   |         | missing | lsi         |         |         | pe>ppt1       | missing |         |
| cl!po         |         | ∴       | lsim        |         |         | peG           |         |         |
| cl!po-1       |         | ∴       | lsiv        |         | missing | peS           |         |         |
| cl!po>        |         | ∴       | lsk         |         |         | peSppt2       |         | missing |
| cl!po>ppt1    |         | ∴       | lsl         |         |         | peSppt2sut5   |         | missing |
| cl!pr         |         | ∴       | lslb        |         |         | peSsu1sux1    |         |         |
| cl-           |         | ∴       | lslc        |         |         | peSsu2        |         |         |
| cl!pi         |         | ∴       | lslen       |         | missing | peSsut1su2    |         |         |
| cl-1su2       |         | ∴       | lslm        |         |         | peSsut1suy1   |         | missing |
| cl->          |         | ∴       | lslp        |         |         | peSsut2       |         |         |
| cl->1         |         | ∴       | lslt        |         |         | peSsut3       |         |         |
| cl-lst2       |         | missing | lsm         |         |         | peSsut5       |         | missing |
| cl-ppt1       | missing | ∴       | lsmoll      |         |         | peppt1        |         |         |
| cl-ppt2       |         | ∴       | lsp         |         |         | pesu1sut1     |         |         |
| cl>           |         | ∴       | lspar       |         | missing | pesu1sut2     |         | missing |
| cl>1          |         | ∴       | lspfec      |         | missing | pesu1sut3     |         |         |
| cl>pp2        | missing | ∴       | lspm        |         |         | pesu1suu1     |         |         |
| cl>ppt2       |         | ∴       | lspulcre    |         | missing | pesu1suw1     |         |         |
| clM           |         | ∴       | lss         |         |         | pesu1sux1     |         |         |
| clM-          |         | ∴       | lssb        |         |         | pesu2         |         |         |
| clMpp2        | missing | ∴       | lssc        |         |         | pesu2sut1     |         | missing |
| clS           |         | ∴       | lssimil     |         |         | pesu2suv1     |         |         |
| clS-          |         | ∴       | lssimul     |         | missing | pesu3         |         |         |
| clS-1         |         | ∴       | lssm        |         |         | pesut2        |         |         |
| clS-2         |         | missing | lssst       |         |         | pesuv1su1sut1 |         |         |
| clS-su2       |         | ∴       | lsssta      |         | missing | pe~           |         |         |
| clS1          |         | ∴       | lst         |         |         | pf            |         |         |
| clSsu1sut1    |         | ∴       | lstb        |         |         | pf!cl-        |         |         |
| clSsu2        |         | ∴       | lstm        |         |         | pf!clM-       |         |         |
| clSsut1       |         | ∴       | lstw        |         | missing | pf!clM-ppt1   |         |         |
|               |         |         | lsv         |         | missing | pf!cl~        |         |         |

|                |         |         |                    |         |                   |         |
|----------------|---------|---------|--------------------|---------|-------------------|---------|
| pf!cl~ppt1     |         |         | pqS-               |         | ql!clS-2sut1      |         |
| pf!pr          |         |         | pqS>               |         | ql!clSppt1        | missing |
| pf-            |         |         | pqlsfr1            | missing | ql!clppt1         |         |
| pf1lsc2        |         | missing | pr                 |         | ql!pf             |         |
| pf>            |         |         | pr-                |         | ql!pf-            |         |
| pfG            |         |         | pr-lsc3            | missing | ql!po             |         |
| pfM            |         |         | pr>                |         | ql!po-1           |         |
| pfM-           | missing |         | prM                |         | ql!po-1ppt1       |         |
| pfMsut1        |         |         | prlsc2             | missing | ql!po>            |         |
| pfMsuu1        | missing |         | prlst2             | missing | ql!poppt1         |         |
| pfS            |         |         | prlst2             |         | ql!po~            |         |
| pf1lsc2        |         | missing | pr~                |         | ql!po~ppt1        |         |
| pf1st2         |         | missing | pt                 |         | ql!vs             |         |
| pf~            |         |         | pu                 |         | ql!vsppt1         |         |
| pi             |         |         | qi                 |         | ql!vsppt1su2      |         |
| pi>            |         |         | qi!cl              |         | ql!vsppt1sut2     |         |
| piM            | missing |         | qi!cl-             |         | ql!vssu2          |         |
| piM1           |         | missing | qi!cl->            | missing | ql!vssu3          |         |
| piM1sut1       |         | missing | qi!cl>             |         | ql!vssut2         |         |
| pilsc2         |         | missing | qi!clppt1          |         | ql-               |         |
| pilst2         |         | missing | qi!po              |         | ql->              | missing |
| pisu1          |         |         | qi!po>             | missing | ql-ppt1           |         |
| pisut1         |         |         | qi!vs              |         | ql-ppt1su1sut2    |         |
| po             |         |         | qi!vsppt1          |         | ql-ppt1su1suu1    |         |
| po-            |         |         | qi!vsppt1su1sut2   | missing | ql-ppt1su1sux1    |         |
| po-1           |         |         | qi!vsppt1su2       |         | ql-ppt1su2        |         |
| po-1pp2su1sux1 |         |         | qi!vssu1sut2       | missing | ql-ppt1su3        |         |
| po-1su1sux1    |         |         | qi!vssu2           |         | ql-ppt1sut2su1    | missing |
| po-1su2        |         |         | qi-                |         | ql-ppt1sut2suu1   |         |
| po-2           | missing |         | qi-ppt1su1sut2     |         | ql-ppt1suu2       |         |
| po>            |         |         | qi-ppt1suu1su1sut2 | missing | ql-ppt2su1suv1su2 |         |
| poG            |         |         | qi-su1sut2         |         | ql-su1sut1        |         |
| poG-           |         |         | qi-su1sux1         |         | ql-su1sut2        |         |
| poG-1          | missing |         | qi-su2             |         | ql-su1suu1        |         |
| poG1           | missing |         | qi-sut2            |         | ql-su1suu2        |         |
| polsc2         |         | missing | qi-sut3            |         | ql-su1suv1su2     |         |
| posu1sut1      |         | missing | qi-suu1su1sut2     | missing | ql-su1sux1        |         |
| posu2          |         |         | qi>                |         | ql-su2            |         |
| po~            |         |         | qi>ppt1            |         | ql-su3            |         |
| pp1            |         |         | qippt1             |         | ql-sut1sux1       |         |
| pp2            |         |         | qippt2sut2         |         | ql-sut2           |         |
| pp3            |         |         | qisu2              | missing | ql-sut2su1        | missing |
| pp4            |         |         | qisut1sux1         |         | ql-sut2suu1       |         |
| pp5            | missing |         | qisut2             |         | ql-suu2           |         |
| ppt1           |         |         | ql                 |         | ql>               |         |
| ppt2           |         |         | ql!cl              |         | ql>ppt1           |         |
| ppt3           |         |         | ql!cl!cl>          |         | qlppt1            |         |
| ppt4           |         |         | ql!cl!cl>ppt1      |         | qlppt1su2         | missing |
| ppt5           |         |         | ql!cl!pi           |         | qlppt1sut3        |         |
| ppu1           |         |         | ql!cl!pippt1       |         | qlsu2             | missing |
| ppu2           |         |         | ql!cl-             |         | qlsut2            |         |
| ppu3           |         |         | ql!cl->            |         | qlsut3            |         |
| ppu4           |         |         | ql!cl->ppt1        |         | sa                |         |
| ppu5           |         |         | ql!cl-ppt1         |         | sa!cl             |         |
| pq             |         |         | ql!cl>             | missing | sa!cl-            |         |
| pq!cl          |         |         | ql!cl>1            |         | sa!cl>            |         |
| pq!cl-         |         |         | ql!cl>ppt1         |         | sa!clS-1          |         |
| pq!cl>         |         |         | ql!clM             |         | sa!clS1           |         |
| pq-            |         |         | ql!clMppt1         |         | sa!clS1lsc2       | missing |
| pq-su2         |         |         | ql!clS             |         | sa-               |         |
| pq>            |         |         | ql!clS-2           |         | sa-1              |         |
| pqS            |         |         | ql!clS-2ppt1       |         | sa->1             |         |
|                |         |         | ql!clS-2ppt1sut1   |         |                   |         |



|                |         |         |             |         |             |         |         |
|----------------|---------|---------|-------------|---------|-------------|---------|---------|
| sa-lsfr1       |         | missing | su1suu1su2  |         | to!ciGhh    |         | missing |
| sa-su1sut1     |         | missing | su1suu2     |         | to!cl       |         |         |
| sa-su2sut1     |         |         | su1suv1     |         | to!cl!cl    |         |         |
| sa1            |         |         | su1suv1su2  |         | to!cl!cl!cl |         |         |
| sa1!cl->       |         |         | su1suw1     |         | to!cl!pi    |         |         |
| sa1!cl>        |         |         | su1sux1     |         | to!cl!po    |         |         |
| sa>            |         |         | su2         |         | to!cl!po-1  |         |         |
| sa>1           | missing |         | su2sut1     |         | to!cl-      |         |         |
| sa>2           |         |         | su2suv1     |         | to!cl-!cl-  |         |         |
| saG            |         |         | su2suw1     |         | to!cl-1     |         |         |
| saM            |         |         | su2sux1     |         | to!cl->     |         | missing |
| saM-1          |         |         | su2suy1     |         | to!cl>      |         | missing |
| saM-4          |         |         | su3         |         | to!clM      |         | missing |
| saM1           |         |         | su3sut1     |         | to!clMlss8  |         | missing |
| saM2           |         |         | su4         |         | to!clS      |         |         |
| saM3           |         |         | su5         |         | to!pi       |         |         |
| saM4           |         |         | sut1        |         | to!po       |         |         |
| saM5           |         | missing | sut1su1sux1 | missing | to!posu2    |         |         |
| saM5ppt1       |         | missing | sut1su2     |         | to!pr       |         |         |
| saM6           |         | missing | sut1suu1    |         | to-         |         |         |
| salsfr1        |         | missing | sut1suw1    |         | to-1        |         |         |
| sapp1          |         |         | sut1sux1    |         | to-1su1     |         |         |
| sa~            |         |         | sut2        |         | to-1su2     |         |         |
| sc             |         |         | sut2su2     |         | to-1suu1    |         | missing |
| sc-            |         |         | sut2suu1    |         | to-1suu1su2 |         |         |
| sc-1           | missing |         | sut2sux1    | missing | to->        |         |         |
| sc1            |         |         | sut2suy1    |         | to>         |         |         |
| sc>            |         |         | sut3        |         | to>1        |         |         |
| scG            |         |         | sut3suw1    |         | to>2        |         | missing |
| scG-1          |         |         | sut3sux1    |         | to>pp2      |         |         |
| scG1           |         |         | sut3suy1    |         | toG         |         |         |
| scM            | missing |         | sut4        |         | toM         |         |         |
| scM1           |         |         | sut5        |         | toM-        | missing |         |
| scM2           |         |         | suu1        |         | toM1        |         |         |
| scS            |         |         | suu1su1sut2 |         | toM2        | missing |         |
| sc~            |         |         | suu1su2     |         | toM2-       | missing |         |
| sf             |         |         | suu1sut1su2 |         | toM3        |         |         |
| sf-            |         |         | suu2        |         | toS         |         |         |
| sf>            | missing |         | suu2su2     |         | toS!cl      |         | missing |
| sfG            | missing |         | suu3        |         | toS!cl-     |         | missing |
| sfG1           | missing |         | suu5        |         | toS!cl-lsi8 |         | missing |
| sfM            |         |         | suv1        |         | toS!cllsi8  |         | missing |
| sfM1           | missing |         | suv1su1sut1 |         | toS1        |         |         |
| sfS            |         |         | suv1su2     |         | toS2        |         |         |
| sflsc3         |         | missing | suw2        |         | toS2su2     |         |         |
| st             |         |         | ta          |         | toS2sut1    |         |         |
| st-            |         |         | ta-         |         | toS2sut2    |         |         |
| st>            |         |         | ta>         |         | toS2sux1    |         |         |
| stS            |         |         | ta>ppt1     |         | toS3        |         |         |
| su1            |         |         | talsc3      |         | toS3lst2    |         | missing |
| su1sut1        |         |         | talst2      |         | toS4        |         | missing |
| su1sut1su1sut1 |         |         | tg          |         | toSsu2      |         |         |
| su1sut1su2     |         |         | tg1         |         | tolsc3      |         | missing |
| su1sut1sux1    |         |         | tgM         |         | tolsc4lst3  |         | missing |
| su1sut1suy1    |         |         | tgS         |         | tolst2      |         | missing |
| su1sut2        |         |         | tgS-        |         | toppt1      |         | missing |
| su1sut2su1     |         |         | tgS1        |         | toppu1      |         |         |
| su1sut3        |         |         | tgS2        |         | tr          |         |         |
| su1suu1        |         |         | tgS3        |         | tr-         | missing |         |
| su1suu1su1     |         |         | tgS4        |         | tr-1        |         |         |
|                |         |         | tgSsuu1     |         | tr-1su2     |         |         |
|                |         |         | tgsuu1      |         | tr-2        | missing |         |
|                |         |         | to          |         | tr-3        |         |         |
|                |         |         | to!ciG      |         | tr~         |         |         |

|               |  |         |                |         |         |                  |         |
|---------------|--|---------|----------------|---------|---------|------------------|---------|
| tr~1          |  |         | vi-su1suw1     |         |         | visu1sut1su1sut1 |         |
| tr>           |  |         | vi-su1sux1     |         |         | visu1sut1su2     |         |
| trG           |  |         | vi-su2         |         |         | visu1sut1sux1    |         |
| trG1          |  |         | vi-su2sut1     |         |         | visu1sut1suy1    |         |
| trG2          |  |         | vi-su2suw1     | missing |         | visu1sut2        |         |
| trM           |  |         | vi-su2sux1     |         |         | visu1suu1        |         |
| trS           |  |         | vi-su3         |         |         | visu1suu1su2     |         |
| trS-          |  |         | vi-su4         |         |         | visu1suv1        |         |
| trS1          |  |         | vi-sut1su2     |         |         | visu1suw1        |         |
| trSsut2       |  |         | vi-sut1suu1    |         |         | visu1sux1        |         |
| trlst2        |  | missing | vi-sut1sux1    | missing |         | visu2            |         |
| trsu3         |  | missing | vi-sut2        |         |         | visu2lsc3        | missing |
| tr~           |  |         | vi-sut2sux1    | missing |         | visu2sut1        | missing |
| ts            |  |         | vi-sut3        |         |         | visu2suw1        |         |
| ts-           |  |         | vi-sut3sux1    |         | missing | visu2sux1        |         |
| ts>           |  |         |                |         |         | visu3            |         |
| tsM           |  |         | vi-sut4        |         |         | visu5            |         |
| tsM-          |  |         | vi-suu1su2     |         |         | visu1su2         |         |
| tsM>          |  | missing | vi-suu1sut1su2 |         | missing | visu1sux1        |         |
| tslsx6        |  | missing | vi-suu2        |         |         | visut2           |         |
| tv            |  |         | vi-suu2su2     |         |         | visut2su2        |         |
| tv-           |  |         | vi-suu3        |         |         | visut2sux1       | missing |
| vi            |  |         | vi>            |         |         | visut2suy1       |         |
| vi-           |  |         | vi>pp2         |         |         | visut3           |         |
| vi-!ci        |  |         | vi>ppt2        |         |         | visut3suw1       |         |
| vi-!vi!vi     |  |         | vi>ppt3        |         |         | visut3suy1       |         |
| vi-!vi-!vi    |  |         | vilsc3         |         | missing | visut4           |         |
| vi->          |  |         | vilst1         |         | missing | visuu1su2        |         |
| vi-lst3       |  | missing | vipp2          |         |         | visuu2su2        |         |
| vi-pp2        |  |         | vipp3          |         |         | visuu3           | missing |
| vi-pp4        |  |         | vipp4          |         |         | visuu5           | missing |
| vi-ppt2       |  |         | vippt1su1sut1  |         |         | visuv1su2        |         |
| vi-ppt3       |  |         | vippt1su2      |         |         | vs               |         |
| vi-su1sut1    |  |         | vippt1su2lsc3  |         | missing | vs-              |         |
| vi-su1sut1su2 |  |         | vipp2          |         |         | vs->             |         |
| vi-su1sut2    |  |         | vippt2         |         |         | vs>              |         |
| vi-su1sut2su1 |  |         | vippt2suu5     |         | missing | vs-lsc3          | missing |
| vi-su1suu1    |  |         | vippt3         |         |         | vs-lst2          | missing |
| vi-su1suu1su1 |  |         | vippu1su2      |         |         | vs~              |         |
| vi-su1suu1su2 |  |         | vippu1su2lsc3  |         | missing |                  |         |
| vi-su1suu2    |  |         | visu1sut1      |         |         |                  |         |

Table with nabc strings and corresponding grelaon glyphs:

|                    |  |                   |  |               |  |                    |  |
|--------------------|--|-------------------|--|---------------|--|--------------------|--|
| bv                 |  | cl1!pi!tosun1     |  | lssimpl       |  | pelsa2             |  |
| bvlsa2             |  | cl1!pi!vi         |  | lssp          |  | pelsc2             |  |
| bvsun4             |  | cl1!pi>           |  | lsst          |  | pelsl2             |  |
| ci                 |  | cl1!pilsn3lsa6    |  | lst           |  | pelsm2             |  |
| cilsf1             |  | cl1!pilsn8        |  | lsth          |  | pelsn2             |  |
| cilsn8             |  | cl1!pilsn9        |  | ltdo          |  | pelsn3             |  |
| cl                 |  | cl1!pilst9        |  | ltdr          |  | pelsst1lsm4        |  |
| cl!cl!cl           |  | cl1!pipp2         |  | ltdx          |  | pelsst2            |  |
| cl!cl!clsn9        |  | cl>               |  | lti           |  | pelst2             |  |
| cl!cl!clsun1lsa5   |  | cl>1              |  | ltps          |  | pesu2              |  |
| cl!cl!pi           |  | cl>1pp2           |  | ltqm          |  | pesu2lst3          |  |
| cl!cl!pi!vi        |  | cl>lsa5           |  | ltsb          |  | pesu2sun1          |  |
| cl!cl!po           |  | clG               |  | ltse          |  | pesun3             |  |
| cl!cl!to           |  | clG1              |  | ltsj          |  | pesun3lss1lsa3     |  |
| cl!or              |  | clGlsa5           |  | ltsl          |  | pf                 |  |
| cl!orpp2           |  | clGlsnl2          |  | ltsn          |  | pf1                |  |
| cl!pe              |  | clM               |  | ltsr          |  | pf2                |  |
| cl!pelsc2          |  | clshn8            |  | ltst          |  | pf>                |  |
| cl!pelsn7          |  | cllsm2            |  | ltus          |  | pf>1               |  |
| cl!pelst2          |  | cllsn8            |  | ni            |  | pf>2               |  |
| cl!pi!vi>          |  | cllsn9            |  | oc            |  | pfM                |  |
| cl!po              |  | cllsnt2           |  | oc!cl         |  | pfMlsm3            |  |
| cl!popp3           |  | cllsst6           |  | oc!clM        |  | pfS                |  |
| cl!to              |  | cllsst8           |  | oc!pe         |  | pfppn1ppq1sun1lsa5 |  |
| cl!to!cl!cl        |  | cllst9            |  | oc!pe!pu      |  | pfsun1             |  |
| cl!to!pi           |  | clsu2sun1lst6     |  | oc!vi         |  | pfsun1lsn5         |  |
| cl!to!pi!cl        |  | clsu3lst5         |  | oc!visun1     |  | pf~                |  |
| cl!to!pi!clpp2     |  | clsun1lst5        |  | ocG           |  | pf~1               |  |
| cl!to!pi!clpp2lsn9 |  | ds                |  | ocG1          |  | pi                 |  |
| cl!to!pipp2        |  | ds1               |  | ocGlsa5       |  | po                 |  |
| cl!to>             |  | ds1!clsu1sun1     |  | oclst8        |  | po>                |  |
| cl!tolst9          |  | ds1!clsu1sun1lst5 |  | or            |  | po>1               |  |
| cl!topp2           |  | ds1!clsun2        |  | or1           |  | po>pp2             |  |
| cl!toppz1su1sun1   |  | ds1!clsun2lst5    |  | or>           |  | po>ppn1            |  |
| cl!tosu1           |  | ds1!ds1           |  | or>lsa1       |  | po>ppn1ppz1        |  |
| cl!tosu1lsc6       |  | ds1!ts            |  | orlst3        |  | poG                |  |
| cl!tosu1lsc6lst8   |  | ds1!ts1           |  | orsu1sun1     |  | poM                |  |
| cl!tosun1lsa5      |  | ds1pp3            |  | orsu1sun1lsc2 |  | poMsun1            |  |
| cl1!or             |  | dslst2            |  | orsu1sun1lsc3 |  | polsf2lst3         |  |
| cl1!orlsc3         |  | dslst8            |  | pe            |  | polst2             |  |
| cl1!orlss3         |  | lsa               |  | pe!or         |  | popp2              |  |
| cl1!orpp2          |  | lsc               |  | pe!pu         |  | popp2su1sux1       |  |
| cl1!orsun1         |  | lseq              |  | pe!ta         |  | poppn1             |  |
| cl1!orsun1lsa5     |  | lseq-             |  | pe!ta>        |  | posu1sun1          |  |
| cl1!pi             |  | lsequ             |  | pe!ta>2       |  | posun1lsa5         |  |
| cl1!pi!cl          |  | lsf               |  | pe!ta>2lsa2   |  | posux1             |  |
| cl1!pi!orsun1      |  | lsh               |  | pe!talsa2     |  | pp1                |  |
| cl1!pi!pesu2       |  | lshn              |  | pe!talsc1lst2 |  | pp2                |  |
| cl1!pi!pi!vi       |  | lshp              |  | pe!un         |  | pp2ppn1            |  |
| cl1!pi!pisun1lsa5  |  | lshp              |  | pe!unlsc2     |  | pp3                |  |
| cl1!pi!to          |  | lsl               |  | pe>           |  |                    |  |
| cl1!pi!tosu1       |  | lsl               |  | pe>1          |  |                    |  |
|                    |  | lsm               |  | pe>1lsa6      |  |                    |  |
|                    |  | lsmd              |  | peG           |  |                    |  |
|                    |  | lsn               |  | peG1          |  |                    |  |
|                    |  | lsnl              |  | peGlsa6       |  |                    |  |
|                    |  | lsnt              |  | peGlsf1       |  |                    |  |
|                    |  | lss               |  |               |  |                    |  |
|                    |  | lssimp            |  |               |  |                    |  |

|                  |                    |             |                        |
|------------------|--------------------|-------------|------------------------|
| pp4              | ql!cl!tr>ppz1      | qlsux1      | to                     |
| ppn1             | ql!clppn1          | sa          | to!cl                  |
| ppn1pp1          | ql!po              | sa1         | to!cl!cl               |
| ppn1pp1ppz1      | ql!po>             | sa1lsc4     | to!cl!cllst9           |
| ppn1ppq1         | ql!po>ppn1         | sa1lsc6     | to!cl!clsu1            |
| ppn1ppz1         | ql!pol1sa1lsc3lsc9 | sa1sun1lsc5 | to!cl!clsun2           |
| ppn1ppz1ppq1     | ql!pol1sm1         | sa>         | to!cl!clsun2lsc5       |
| ppn2             | ql!popppn1         | salsc4      | to!cl!orsun1           |
| ppn2ppz1         | ql!popppn1lst2     | salsc6      | to!cl!pi               |
| ppn2ppz1ppq1     | ql!popppn1sun1     | sc          | to!cl>1                |
| ppn3             | ql!popppn1sux1     | sc1         | to!clM                 |
| ppn3ppz1         | ql!popppz1         | sc1lsc4     | to!clsu1sun1           |
| ppn4             | ql!popppz1lsc3     | sclst2      | to!clsu1sun1lsc6       |
| ppq1             | ql!popppz1su1sun1  | sf          | to!clsu2               |
| ppz1             | ql!posu1sun1       | sfG         | to!clsu2lsc6           |
| ppz1ppq1         | ql!posun1          | su1         | to!clsun1              |
| pq               | ql!posun1          | su1sun1     | to!clsun1lsc5          |
| pq1              | ql!posux1          | su1sun1su1  | to!or                  |
| pr               | ql>                | su1sun1su2  | to!orlsc6              |
| pt1              | ql>ppn1            | su1sun2     | to!orlst3              |
| pt1ppn1          | ql>ppn1lsc3        | su1sux1     | to!orsun1lsc5          |
| pt2              | qls1st2            | su2         | to!pi!cl               |
| pt3              | qlppn1             | su2sun1     | to!pi!cl!pi!orsun1lsc5 |
| pu               | qlppn1ppz1         | su3         | to!pi!cl!pi!pi         |
| pu1              | qlppn1ppz1lst2     | su4         | to!po                  |
| pulsnt3          | qlppn1ppz1su1sun1  | sun1        | to!pohd                |
| pupp1su1sun1     | qlppn1ppz1sun1     | sun1su1     | to!to                  |
| pupp1su2         | qlppn1ppz1sun1lsc5 | sun1su1sun1 | to!to!pi!cl            |
| pupp2su1sun1     | qlppn1su1sun1      | sun1su2     | to!to!pi!clpp2         |
| pupp2su2         | qlppn1su1sun2      | sun2        | to!toppn1sun1          |
| puppn1su1sun2    | qlppn1su2          | sun2su1     | to!tosun1              |
| pupppz1su1sun2   | qlppn1su2lsc1      | sun2su2     | to>                    |
| pupppz1su2       | qlppn1sun1         | sun3        | to>2                   |
| pusu1sun1        | qlppn1sun1lsc5     | sun4        | to>2lsc3               |
| pusu1sun1lsc1    | qlppn1sun1su2      | sux1        | to>2lsc1lsc3           |
| pusu1sun1lst7    | qlppn1sun1su2      | ta          | to>lsc5                |
| pusu1sun2        | qlppn2sun1         | ta>         | to>pp2                 |
| pusu1sun2lsc5    | qlppn2sun1lsc5     | ta>1        | toG                    |
| pusu2sun1        | qlppn2sun2         | ta>2        | toGlsa1lst8            |
| pusu3            | qlppn2sun2lsc5lsc5 | ta>2lsc2    | toGlsa5                |
| pusu4            | qlppz1su1sun1      | ta>lsc1     | toS                    |
| ql               | qlsu1sun1          | ta>pp2      | toS!pe                 |
| ql!cl            | qlsu1sux1          | ta>ppn1     | toS!to                 |
| ql!cl!or         | qlsu2              | tasu2       | toS!tolst9             |
| ql!cl!orppn1ppz1 | qlsun1             | tg          | toS1                   |
| ql!cl!to         | qlsun1lsc5         | tg!cl       | toSlsa5                |
| ql!cl!to!or      | qlsun1su2          | tg!cl>1     | toSsun1lsc5            |
| ql!cl!to!orsun1  | qlsun2             | tg!cllsc9   | tolsc4                 |
| ql!cl!tolst6     | qlsun2lsc5         | tg!or       | tolscn8                |
| ql!cl!toppn1     |                    | tglsn8      | tolscnt2lst9           |
| ql!cl!tosu3      |                    | tglsnt9     | tolst9                 |
| ql!cl!tosu3lst6  |                    | tglsun1lsc5 | tolsth8                |
| ql!cl!tr>        |                    |             | topp1su1               |
|                  |                    |             | topp1su1lsc6           |
|                  |                    |             | topp2                  |
|                  |                    |             | topp2sun1              |

|                   |                        |                   |                        |
|-------------------|------------------------|-------------------|------------------------|
| toppn3ppz1sun1    | tssun1lsa5             | unsun2su2         | vippn1su1sun1lst2      |
| tosu1             | tv                     | unsun3            | vippn1su2              |
| tosu1lsc5         | tvlsm2                 | unsun3lsa3        | vippn1sux1             |
| tosu1sun1         | un                     | unsun3lsa6        | vippn2                 |
| tosu1sun1lsc6lst7 | un!clG                 | unsux1            | vippn2lsa4             |
| tosu1sun1lsc6     | un1                    | vi                | vippn2lsc4             |
| tosu2             | un1lst8                | vi>               | vippn2lst3lsa4         |
| tosu2lst6         | un1ppn1ppq1sun2        | vi>1              | vippn2ppz1ppq1         |
| tosun1            | un1ppn1sun1su2lsa5     | vi>1sa2lsc8       | vippn2ppz1ppq1lst2lsa8 |
| tosun1lsa5        | un1ppn1sun2            | vi>1pp2           | vippn2ppz1sun1lsa5     |
| tosun1su1sun1     | un1sun1su1sun1lsa1lsc4 | vi>1ppn1ppz1ppq1  | vippn2sun1             |
| tosun1su2lsn3lst6 | un1sun1su1sun1lsa3lsc6 | vi>2              | vippn2sun1lsa4         |
| tosun2            | un1sun1su2             | vi>lsa6           | vippn3                 |
| tosun2lsa6        | un1sun1su2lsa5         | vi>lsc6           | vippn3su4              |
| to~               | un1sun2                | viS               | vippn3sun1lsa5         |
| tr                | un1sun2su2             | vilss1            | vippn4                 |
| tr>               | un2                    | vilss2            | vippq1                 |
| trS               | un2lsm1                | vilsst1           | vippz1ppq1             |
| trSlsc1           | unlsm1                 | vilst1            | visu1sun1              |
| trlss1lss3        | unlsm2lss3lst8         | vilst2            | visu1sun1su1           |
| trlst3lshp7       | unlst1                 | vilst2lsa8        | visu1sun1su1lst6       |
| trs2              | unlst2                 | vilst9            | visu1sun1su2           |
| trs2lst3lsm8      | unlst8                 | vipp2ppn1         | visu1sun1su2lss1lst6   |
| trs3un1lsa3lsa5   | unppn1ppz1sun1         | vipp2su2          | visu1sun2              |
| trs3un1lsa5       | unppn1ppz1sun1lsa5     | vipp2sun1lsa5     | visu1sun2              |
| trs3un1su2        | unppn1sun1su2          | vipp3             | visu1sun2lsa5          |
| trs3un1su2lsa3    | unppn1sun2             | vipp3lsn3         | visu1sun2lsa6          |
| trs3un2           | unppn1sun2lsa5         | vipp4             | visu2                  |
| trs3un2lsa5       | unppn1sux1             | vipp4lst2         | visu1su1sun1           |
| trs3ux1           | unppn1sux1lsa5         | vippn1pp1         | visu1sun2lsa5          |
| trs3ux1lsa5       | unppn3sun1lsa5         | vippn1pp1ppz1     | visu1sun2lsa6          |
| trs3ux1lst8       | unsun1su1              | vippn1pp1ppz1lst8 | visu1sun2              |
| ts                | unsun1su1lst2lsc6      | vippn1pp1su1sun2  | visu1su1sun1           |
| ts1               | unsun1su2              | vippn1ppq1        | visu1su1sun1lst6       |
| ts>               | unsun2                 | vippn1ppz1ppq1    | vs                     |
| ts>1              | unsun2lsa5             | vippn1su1         | vsG                    |
| ts>lsc2           | unsun2su1              | vippn1su1sun1     |                        |
| ts>lsc6           |                        |                   |                        |
| tslsa2            |                        |                   |                        |
| tslsc2lst2        |                        |                   |                        |

# manuscript sources of the gregall font

The list of glyphs uses following abbreviations for manuscript references; the page number is always for the start of some antiphon, responsory, mass propers, even when the actual neume is on a later page. At the end of lines, GT stands for Graduale Triplex, Solesmes, 1979, OT for Offertoriale Triplex, Solesmes, 1985, AM for Antiphonale Monasticum, Solesmes, 1934, ARII for Antiphonale Romanum II, Solesmes, 2009 and NR for Nocturnale Romanum, Hartker Verlag, 2002, followed by page number which also contains the corresponding propers, antiphons or responsories.

Most of the glyphs taken from the e-codices Virtual Manuscript Library of Switzerland, <http://www.e-codices.unifr.ch/en>, with permission from Stiftsbibliothek, St. Gallen <http://www.stibi.ch/> and Stiftsbibliothek, Einsiedeln <http://kloster-einsiedeln.ch/>, the picture fragments from there are only present in the font source file to help drawing the glyphs.

## Cantatorium codex 359

C1 = [http://www.e-codices.unifr.ch/en/download/csg-0359\\_001/max](http://www.e-codices.unifr.ch/en/download/csg-0359_001/max)  
C25U Universi GT16  
C26A Alleluia Ostende GT16  
C26D Dilexisti iustitiam GT499  
C27E Ex Sion GT18  
C27Q Qui sedes GT22  
C28A Alleluia. Excita Domine GT23  
C28T Tollite portas GT25  
C32B Benedictus es in firmamento GT664  
C35Q Qui regis Israel intende  
C37A Alleluia. Veni, Domine GT36  
C38T Tecum principium GT42  
C38A Alleluia Dominus dixit GT43  
C39B Benedictus qui GT45  
C40A Alleluia Dies sanctificatus GT49  
C40V Viderunt omnes GT48  
C42A Alleluia. Hic est discipulus GT636  
C43A Anima nostra GT453  
C43L Laus tibi Christe  
C44E Ecce sacerdos GT486  
C44D Diffusa est gratia GT408  
C45S Speciosus forma GT54  
C460 Omnes de Saba GT57  
C46B Benedictus Dominus GT257  
C46A Alleluia Vidimus stellam GT58  
C47I Iuravit Dominus GT486  
C49I Inveni David GT445  
C50G Gloriosus Deus GT456  
C52T Timebunt gentes GT265  
C52P Posuisti Domine GT477  
C53S Suscepimus Deus GT360  
C53A Alleluia. Adorabo ad templum GT270  
C54A Audi filia GT417  
C56B Beatus vir GT475  
C56D Desiderium animae GT432  
C57B Beatus vir GT481  
C58A Adiutor GT69  
C59D De profundis GT673  
C60S Sciant gentes GT88  
C60C Commovisti Domine GT89  
C61T Tu es Deus GT275  
C61I Iubilare Domino GT185  
C62M Miserere mei GT63  
C64Q Qui habitat GT73  
C67D Dirigatur GT340  
C71L Laudate Dominum GT187  
C73P Propitius esto GT288  
C74B Bonum est GT327  
C780 Oculi omnium GT343  
C79L Laetatus sum GT336  
C80Q Qui confidunt GT109  
C81E Exsurge Domine GT114  
C82B Beata gens GT333  
C82R Respice Domine GT320  
C82V Venite filii GT298  
C84T Tibi Domine GT118  
C87E Exaltabo te GT112  
C88T Tollite hostias GT272  
C89T Tenuisti manum GT133  
C95D Domine exaudi GT172  
C97D Domine audivi  
C100C Crux fidelis GT182  
C103C Cantemus Domino GT186  
C104V Vinea facta GT188  
C107A Alleluia Pascha nostrum GT197  
C118C Clamaverunt iusti GT454  
C122I In omnem terram GT427  
C123C Constitues eos GT426

C132D Domine praevenerunt GT509  
C134B Benedicite Dominum GT608  
C137A Audi filia GT406  
C139A Alleluia Benedictus es GT375  
C139B Benedictus es GT372  
C145L Liberasti nos GT366  
C148A Alleluia Domine refugium GT321  
C148Q Alleluia Quoniam Deus GT327  
C148V Alleluia Venite GT324  
C149A Alleluia. Paratum cor meum GT344  
C150L Alleluia Laetatus GT19  
C153S Alleluia Sancti tui, Domine, benedicent GT463  
C153B Alleluia Beatus vir qui suffert GT511  
C154A Alleluia Gaudete iusti GT430

## Einsiedeln codex 121

E1 = [http://www.e-codices.unifr.ch/en/download/sbe-0121\\_001/max](http://www.e-codices.unifr.ch/en/download/sbe-0121_001/max)  
E2R Respice in me OT5  
E2D Dominus dabit GT17  
E3D Deus tu convertens GT20  
E10P Prope est Dominus GT35  
E11C Confortamini OT9  
E13P Prope es tu GT24  
E16B Benedictus es  
E20E Exsulta satis GT28  
E23T Tollite portas OT14  
E26L Lux fulgebit GT44  
E29E Exsulta filia sion GT47  
E31T Tui sunt caeli OT18  
E33V Viderunt omnes GT50  
E34I In virtute tua OT152  
E35E Elegerunt apostoli OT161  
E39E Exiit sermo inter GT636  
E42A Anima nostra GT466  
E51R Reges tharsis OT21  
E64L Laetamini in Domino OT140  
E69P Posuisti Domine GT477  
E75G Gaudeamus omnes GT545  
E82D De profundis GT673  
E92I Immutemur GT65  
E104S Sicut oculi GT77  
E125P Precatus est Moyses GT317  
E130I Illumina oculos GT290  
E131O Oculi mei semper GT96  
E133I Iustitiae Domini GT309  
E147L Laetare Ierusalem GT108  
E148L Laudate Dominum GT110  
E155B Benedicite gentes Domino GT231  
E158D Domine ad adiuvandum OT42  
E161S Sitientes venite GT114  
E162F Factus est Dominus GT119  
E166C Confitebor tibi Domine OT44  
E173E Eripe me GT129  
E193D Domine, exaudi orationem OT53  
E195D Dominus Iesus GT165  
E205R Resurrexi GT196  
E213C Alleluia Christus resurgens GT226  
E248V Viri Galilaei GT235  
E255S Spiritus Domini GT252  
E256C Confirma hoc OT79  
E262S Sapientiam sanctorum GT452  
E272M Mihi autem nimis OT128  
E293V Vindica Domine  
E320I Inclina aurem GT300  
E327O Oravi Deum meum OT107  
E324R Respice, Domine GT320  
E336I In voluntate tua GT346  
E339S Si iniquitates GT350  
E373B Benedictus es GT372  
**Hartker codex 390/391**

H1 = [http://www.e-codices.unifr.ch/en/download/csg-0390\\_001/max](http://www.e-codices.unifr.ch/en/download/csg-0390_001/max)  
H195 = [http://www.e-codices.unifr.ch/en/download/csg-0391\\_001/max](http://www.e-codices.unifr.ch/en/download/csg-0391_001/max)  
H16A Aspiciebam in visu NR111  
H16M Missus est Gabriel NR111  
H16V Ave Maria NR113  
H22S Sicut mater consolator NR127  
H23E Egredietur Dominus de Samaria NR129  
H24S Super solium David AM206  
H25E Ecce mitto Angelum AM201  
H26G Grata facta est NR25\*  
H28Q Qui venturus est NR134  
H29E Ecce radix Jesse NR137  
H30T Tu es qui venturus es AM199  
H32N Nascetur nobis NR149  
H33I Iuravi dicit Dominus NR151  
H34F Festina ne tardaveris NR130  
H35G Germinaverunt campi NR144  
H36A Adnuntiatum est  
H430 Orietur sicut sol AM234  
H45H Hodie nobis caelorum NR162  
H48B Beata et venerabilis  
H49C Confirmatum est cor Virginis NR208  
H50Q Quem vidistis pastores AM240  
H72V Venit lumen tuum AM290  
H72H Hodie in Iordane NR229  
H730 Omnes de Saba NR237  
H73S Stella ista NR242  
H74I Illuminare, illuminare NR236  
H75I In columbae specie NR231  
H75V Videntes stellam NR242  
H77S Stella ista AM291  
H77A Ab Oriente AM297  
H87E Exaudi Deus  
H103S Spes nostra salus NR512  
H103M Magnus Dominus NR516  
H104T Te Deum patrem  
H112S Stans a dextris AM798  
H114C Corde et animo AM1033  
H114N Nativitas tua AM1035  
H118G Gaude, Maria Virgo NR130\*  
H119C Cum inducerent  
H153V Vado ad patrem  
H173I Insurrexerunt in me NR364  
H173C Contumelias et terrores NR365  
H179L Liberavit Dominus ARII183  
H179A Amicus meus osculi NR381  
H179I Iudas mercator NR382  
H179U Unus ex discipulis NR383  
H180U Una hora non potuistis NR388  
H219T Tradiderunt me NR408  
H219I Iesum tradidit impius NR409  
H225M Mulieres sedentes AM449  
H239R Redemptor noster  
H259O O crux splendor AM898  
H266D Domino si in tempore  
H269S Spiritus Sanctus  
H269D Dum complerentur NR493  
H269R Repleti sunt omnes NR494  
H270S Spiritus Domini AM520  
H271L Loquebantur variis AM521  
H296S Sicut cedrus exaltata NR [165]  
H297B Beatam me dicent NR [172]  
H305H Hodie nata est NR278\*  
H305G Gloriosae virginis Mariae NR279\*  
H306N Nativitas gloriosae NR280\*  
H307N Nativitas tua NR281\*  
H307F Felix namque NR [171]  
H316N Numquid scis  
H320R Regem confessorum  
H322B Beatus Gallus zelo  
H322C Columbanus itaque beato  
H323B Beatus Gallus cum  
H323D Domine Iesu Christe  
H324P Pater sanctus  
H324V Vir Deo plenus  
H325I Iste sanctus digne  
H328F Fundata est domus NR [140]  
H334I In civitate Domini  
H338D Dixerunt discipuli  
H367V Viri sancti NR [54]  
H390C Credo quod Redemptor NR [186]

H392L Libera me Domine de viis NR [200]  
H392I Libera me Domine de morte NR [201]  
H398E Emitte Domine sapientiam NR571  
H401A Audi fili mi  
H405S Scio Domine  
H406D Desiderium meum  
H406A Auditum auris  
H407P Peto Domine NR587  
H411D Domine rex NR599  
H411C Conforta me NR597  
H414E Exaudiat Dominus NR602  
H424M Magnificat  
H428A Ascendens Iesus AM593  
H443V Venite exsultemus NRXXVIII

#### St. Gall codex 339

G1 = [http://www.e-codices.unifr.ch/en/download/csg-0339\\_033/max](http://www.e-codices.unifr.ch/en/download/csg-0339_033/max)  
G56 = [http://www.e-codices.unifr.ch/en/download/csg-0339\\_088/max](http://www.e-codices.unifr.ch/en/download/csg-0339_088/max)  
G57 = [http://www.e-codices.unifr.ch/en/download/csg-0339\\_088a/max](http://www.e-codices.unifr.ch/en/download/csg-0339_088a/max)  
G58 = [http://www.e-codices.unifr.ch/en/download/csg-0339\\_089/max](http://www.e-codices.unifr.ch/en/download/csg-0339_089/max)  
G8E Exulta satis OT11  
G9A Alleluia Veni Domine GT36  
G11P Puer natus est GT47  
G11V Viderunt omnes GT48  
G12T Tui sunt caeli OT18  
G20I Iubilare Deo universa terra GT227  
G22D Domine quinque talenta GT515  
G25P Posuisti Domine GT477  
G30E Exsurge quare obdormis GT91  
G35D Domine vivifica me OT31  
G42D Domine Deus salutis OT112  
G44P Precatus est Moyses GT317  
G45D Domine in auxilium OT106  
G51I Intende voci GT280  
G51S Si ambulabem GT125  
G57F Factus est Dominus GT119  
G89D Domine Deus in simplicitate OT159  
G113A Alleluia. Dilexit Andream GT625  
G116C Cantabo Domino GT283  
G126D Alleluia. Domine Deus meus GT282  
G128A Alleluia. Attendite popule  
G132A Alleluia. Mirabilis Dominus GT462  
G132V Alleluia. Vox exultationis  
G139A Asperges me Domine  
G140O Oremus dilectissimi nobis  
G141O Omnipotens Deus

#### St. Gall codex 376

N1 = [http://www.e-codices.unifr.ch/en/download/csg-0376\\_001/max](http://www.e-codices.unifr.ch/en/download/csg-0376_001/max)  
N39H Hodie cantandus est nobis  
N53A Audite fratres dilecti  
N59N Nativitatem venerandam  
N65G Gloriatu laus tua Deus  
N67G Gloria in excelsis Deo  
N68G Gloria in excelsis Deo  
N69G Gloria in excelsis Deo  
N73G Kyrie eleison  
N86D Dilexisti iustitiam GT498  
N100T Tui sunt caeli OT18  
N171D Deus exaudi orationem GT107  
N221N Alleluia. Non vos relinquam GT242  
N270A Alleluia. Benedictus es GT375  
N293A Alleluia. Sancti tui, Domine, benedicent GT463  
N296V Alleluia. Veni Sancte Spiritus GT263  
N363C Carmen suo dilecto  
N368L Letamente canamus Domino nostro  
N372O O quam mira sunt Deus

#### St. Gall codex 374

A1 = [http://www.e-codices.unifr.ch/en/download/csg-0374\\_001/max](http://www.e-codices.unifr.ch/en/download/csg-0374_001/max)  
A17T Tui sunt caeli OT18  
A22V Vox in Rama GT638  
A26F Fili quid fecisti GT51  
A56C Custodi me Domine GT304  
A127E Exultabunt sancti OT143  
A167O Oravi Deum meum OT107  
A174A Alleluia. Eripe me GT308

#### Bamberg, lit. 6, Gradual of St. Emmeram

B9v = <http://bsbsbb.bsb.lrz-muenchen.de/~db/0000/sbb00000128/images/index.html?id=00000128no=19&seite=22&signatur=Msc.Lit.6>  
B9vA Anima nostra GT466

|       |                  |           |               |        |
|-------|------------------|-----------|---------------|--------|
|       | <b>virga</b>     |           |               |        |
| /     | vi               | C780      | tu            |        |
| /     | vilsc3           | C82R      | testamentum   |        |
| /     | vilst1           | E29E      | rex           | 2.166x |
| /     | vi-              | C80Q      | montes        |        |
| /     | vi>              | C27E      | eius          |        |
| /     | vi-1st3          | H50Q      | Quem          |        |
| /     | vi->             | E20E      | sanctus       | 2.166x |
|       | <b>tractulus</b> |           |               |        |
| -     | ta               | C26A      | Domine        |        |
| -     | talsc3           | E262S     | saeculum      | 2.166x |
| -     | talst2           | C56D      | Desiderium    |        |
| -     | ta-              | C81E      | antiquis.     |        |
| -     | ta>              | C25U      | et            |        |
| -     | suv1 Cf. v. 1    | pesu2suv1 |               |        |
|       | <b>punctum</b>   |           |               |        |
| .     | pu               | C137A     | Audi          |        |
| Cf. 1 | st               |           |               |        |
| Cf. 2 | ci>              |           |               |        |
|       | <b>gravis</b>    |           |               |        |
| v     | gr               | H271L     | Loquebantur   |        |
| v     | gr-              | H270S     | Spiritus      |        |
| v     | gr-lsc6          | H270S     | replevit      |        |
|       | <b>clivis</b>    |           |               |        |
| o     | cl               | C780      | sperant       |        |
| o     | cllsc3           | C26A      | nobis         |        |
| o     | cll1st2          | C25U      | exspectant    |        |
| o     | cl-1st2          | C52P      | pretioso.     |        |
| o     | cl-              | C780      | omnium        |        |
| o     | clS-             | C81E      | opem          |        |
| o     | clS              | C780      | opportuno.    |        |
| o     | clS1             | H424M     | potentiam     |        |
| o     | clM              | C148V     | nostro        |        |
| o     | cl>              |           |               |        |
| o     | cl>1             | H36A      | virginis      |        |
| o     | cl->1            | H50Q      | natum         |        |
| o     | cl->             | H50Q      | angelorum     |        |
| o     | clM-             | C27Q      | super         |        |
| o     | clS-1            | H428A     | navem         |        |
| o     | clS-2            | H334I     | suavissimus   | 2.0x   |
|       | <b>pes</b>       |           |               |        |
| ✓     | pe               | C80Q      | Domine        |        |
| ✓     | pe-              | C80Q      | aeternum      |        |
| ✓     | pe-1             | C64Q      | Scapulis      |        |
| ✓     | peS              | C780      | in            |        |
| ✓     | peG              | B9vA      | erepta        | 0.5x   |
| Cf. 1 | peG              |           |               |        |
| Cf. 2 | pe>              | C100C     | germine       |        |
| Cf. 3 | pe>1             | C27E      | eius          |        |
| Cf. 4 | pe>2             | C71L      | miser cordia  |        |
| Cf. 5 | pe->             | N296V     | tuorum        |        |
| Cf. 6 | ta>              |           |               |        |
| Cf. 7 | pe->1            | H35G      | Germinaverunt | 1.7x   |
|       | <b>porrectus</b> |           |               |        |
| o     | po               | C139B     | super         |        |
| o     | polsc2           | C82R      | iudica        |        |
| o     | po-              | G20I      | anime         | 0.85x  |
| o     | po-1             | C26A      | tuum          |        |
| o     | poG              | C40V      | salutare      |        |
| o     | po>              | C80Q      | commovebitur  |        |
| o     | po~              | C58A      | aeternum      |        |
| o     | poG-             | A1670     | meum          |        |
| o     | posu2            | C460      | gloria        |        |
| o     | po-1su2          | H269R     | alleluia      |        |
| o     | posu1sut1        | C80Q      | saeculum.     |        |
|       | <b>torculus</b>  |           |               |        |
| o     | to               | C780      | Domine        |        |
| o     | tolsc3           | C39B      | nomine        |        |
| o     | tolsc41st3       | E125P     | Domine,       | 2.166x |
| o     | tolst2           | C74B      | miser cordiam |        |
| o     | to-              | G44P      | animae        |        |
| o     | to-1             | C139A     | nostrorum     |        |
| o     | toS              | C38A      | hodie         |        |

|       |                     |       |                                |        |
|-------|---------------------|-------|--------------------------------|--------|
| o     | toS1                | E205R | Resurrexi,                     | 0.5x   |
| o     | toS2                | E161S | Sitientes                      | 1.75x  |
| o     | toS3                | C104V | circumfodit                    |        |
| o     | toG                 | G12T  | eius                           |        |
| o     | toM                 | C49I  | servum                         |        |
| o     | toM1                | H22S  | auxilium                       | 1.71x  |
| o     | toM3                | C39B  | mirabile                       |        |
| o     | to>                 | C26A  | miser cordiam                  |        |
| Cf. 1 | pe>                 |       |                                |        |
| Cf. 2 | toS31st2            | C59D  | tuae                           |        |
| Cf. 3 | pq!cl-              | C87E  | sanasti                        |        |
| o     | to>1                | E130I | obdormiam                      | 2.166x |
| o     | to>2                | H219T | fortes:                        | 1.63x  |
| o     | to->                | E158D | respexit                       | 2.166x |
| o     | toS2sux1            | C460  | Surge                          |        |
|       | <b>climacus</b>     |       |                                |        |
| o     | ci                  | C26A  | tuum                           |        |
| o     | ci1                 | G73P  | gentes                         |        |
| o     | cilsc3              | C74B  | tuo                            |        |
| o     | ci-                 | C81E  | nos                            |        |
| o     | ciS                 | C81E  | Domine                         |        |
| o     | ciS1                | C139A | Deus                           |        |
| o     | visut1su2           | C53A  | Adorabo                        |        |
| o     | ciG                 | C64Q  | lapidem                        |        |
| o     | ciG1                | C42A  | ille                           |        |
| o     | ciM                 | C154A | Alleluia                       |        |
| o     | ciM-                | H24S  | aeternum                       | 2.0x   |
| o     | ci>                 | C460  | orta                           |        |
| o     | cl>                 | C79L  | domum                          |        |
| o     | visuv1su2           | C35Q  | nos                            |        |
| o     | visut3              | C38T  | meo                            |        |
| o     | visu1suu1           | C26D  | laetitia.                      |        |
| o     | visut4              | C25U  | me.                            |        |
| o     | cl-1su2             | C40A  | magna                          |        |
| o     | visu1sut2           | C43L  | Domine                         |        |
| o     | visu1suv1           | C53S  | terrae.                        |        |
| o     | visuu1su2           | C56D  | eius                           |        |
| o     | visuu2su2           | H103S | salus                          |        |
| o     | visuu3              | H316N | erit                           | 2.0x   |
| o     | vi-suu2su2          | H103S | o                              |        |
| o     | visu2suw1           | G113A | Alleluia                       | 0.85x  |
| o     | visut2su2           | G128A | Alleluia                       | 0.85x  |
| o     | visut3suw1          | C153S | dicent.                        |        |
| o     | visu1sut1sux1       | G126D | salvum                         | 0.85x  |
| o     | visu1sut1su2        | N39H  | puer                           |        |
| o     | visu1sut1su1sut1    | N39H  | generavit                      |        |
| o     | vi-su1sut1su2       | N39H  | enim                           |        |
| o     | visut1sux1          | N59N  | filium                         |        |
| o     | clSsu1sut1          | N65G  | tui                            |        |
| o     | vi-su4              | N68G  | Amen.                          |        |
| o     | vi-su1sut2su1       | N73K  | Christe                        |        |
| o     | visu1sut1suy1       | N221N | Alleluia.                      |        |
| o     | visut3suy1          | N293A | dicent.                        |        |
| o     | visut2suy1          | N363C | sacro                          | 1.25x  |
| o     | visu5               | N368L | fornacibus                     | 1.25x  |
| o     | visuu5 Cf. v. 1     |       | vippt2suu5 minus prepunctis    |        |
| o     | visu1suu1su2        | N3720 | erogatione                     | 1.25x  |
| o     | vi-su1suu2          | A174A | meus                           |        |
| o     | vi-su1suu1su1       | A174A | Alleluia.                      |        |
| o     | vi-sut2             | H74I  | illuminare                     |        |
| o     | clS-su2             | C46A  | eius                           |        |
| o     | vi-suu1su2          | H75I  | sanctus                        |        |
| o     | vi-suu1sut1su2      | H328F | tibi                           | 2.0x   |
| o     | clSsut2             | E51R  | suscipiant                     | 2.0x   |
| o     | clSsuu1su2          | H390C | surrecturus                    | 1.5x   |
| o     | vi-sut3             | H269D | dicentes                       |        |
| o     | vi-su1sut1 Cf. v. 1 |       | vi-su1sut1su2 minus subpunctis |        |
| o     | vi-su2sut1          | N296V | alleluia                       |        |
| o     | vi-su1sux1          | E373B | Sanctum                        | 2.133x |
| o     | vi-su2sux1          | C49I  | eum                            |        |
| o     | vi-sut4             | H16A  | servient                       | 1.7x   |
| o     | vi-suu2             | H23E  | ecce                           | 1.7x   |
| o     | vi-suu3             | H35G  | veniet                         | 1.7x   |
| o     | visu2sux1           | H48B  | mater                          | 1.7x   |



|                 |             |                |       |
|-----------------|-------------|----------------|-------|
| vi-sut1su2      | H22S        | elegi          | 1.71x |
| vi-su1suu1      | H114C       | gloriam        | 1.71x |
| vi-su1suu1su2   | H114N       | nobis          | 1.71x |
| vi-su1sut2      | H324P       | aetatis        | 2.0x  |
| vi-su3          | H307F       | natalem        | 2.0x  |
| vi-sut1suu1     | 325I        | peregrinatione | 2.0x  |
| vi-sut3sux1 Cf. | bv-sut3sux1 | minus virga    |       |

#### scandicus

|            |       |                     |        |
|------------|-------|---------------------|--------|
| sc         | G11P  | imperium            | 0.85x  |
| sc1 Cf.    | vipp4 | minus first punctum |        |
| sc-        | C123C | terram              |        |
| scS        | C154A | Alleluia            |        |
| scG        | H179I | Iudas               |        |
| scG1       | C52P  | Posuisti            |        |
| scM1       | C67D  | Domine              |        |
| sc>        | C26A  | Alleluia            |        |
| Cf. pe>2   |       |                     |        |
| vi-pp2     | C26A  | Domine              |        |
| vi-ppt3    | C27E  | veniet.             |        |
| scM2       | C44E  | Ecce                |        |
| vi>ppt3    | E2R   | non                 | 2.166x |
| cl>ppt2    | H730  | annuntiantes        |        |
| vi-!vi!vi  | E155B | Benedicite          | 2.166x |
| vippt3     | G1400 | ae                  | 0.85x  |
| vi-pp4     | C154A | rectos              |        |
| vi-!vi-!vi | H118G | erubescat           |        |
| vipp4      | A127E | eum                 |        |
| vi>ppt2    | H75V  | apertis             |        |
| scG-1      | H225M | Mulieres            | 1.6x   |

#### porrectus flexus

|         |       |             |        |
|---------|-------|-------------|--------|
| pf      | C27E  | sacrificia  |        |
| pflsc2  | C58D  | intendentes |        |
| pf1lsc2 | C61I  | Iipse       |        |
| pflst2  | C122I | fines       |        |
| pf-     | C81E  | antiquis.   |        |
| pfS     | G116C | tribuit     | 0.85x  |
| sfM     | E248V | alleluia,   | 2.166x |
| pfM     | E39E  | manere      | 2.166x |
| pf>     | C95D  | manducare   |        |
| Cf. po> |       |             |        |
| pfMsut1 | E34I  | eum         | 2.166x |

#### pes subbipunctis

|               |       |              |        |
|---------------|-------|--------------|--------|
| pesu2         | C81E  | antiquis.    |        |
| vippt1su2lsc3 | C61T  | solus:       |        |
| pe-su2        | H73S  | adoraverunt  |        |
| pe-1su2       | C64Q  | habitat      |        |
| pe-1sut2      | H104T | confitemur   |        |
| pe-1sut1suw1  | H219I | videret      | 1.63x  |
| peSsu2        | A17T  | eius         |        |
| peSsut2       | C27E  | sanctos      |        |
| peSsut1suy1   | H316N | erit         | 2.0x   |
| vippt1su2     | C56B  | benedicetur. |        |
| toS2sut1      | C139A | Alleluia     |        |
| vi-!ci        | E272M | cognovisti   | 2.166x |
| pesu1suw1     | G8E   | plebem       |        |
| pe-su1sut1    | N296V | alleluia     |        |
| pe-su2suy1    | N296V | alleluia     |        |
| pe-1sut3      | H179A | malum        |        |
| Cf. to>       |       |              |        |
| pesu1suu1     | C27E  | Deus         |        |
| pesu3         | C27Q  | regis        |        |
| vippt1su1sut1 | C40V  | omnes        |        |
| vippu1su2     | C74B  | Altissime.   |        |
| pesu1sut3     | C60S  | venti.       |        |
| pesu2suv1     | C60C  | Sana         |        |
| pesu2sut1     | E213C | Alleluia.    | 2.0x   |
| pesu1sut2     | E213C | Alleluia.    | 2.0x   |
| vippu1su2lsc3 | C32B  | caeli        |        |
| pe-1su1suu1   | C61I  | pascuae      |        |
| peSsu1sux1    | G89D  | fili         | 0.85x  |
| pe-su3sut1    | N270A | saecula.     |        |
| pe-1sut1sux1  | H72V  | orta         |        |
| peSsut3       | C460  | Jerusalem    |        |
| pesut2        | H77S  | magi         |        |

|               |           |                   |        |
|---------------|-----------|-------------------|--------|
| pe-1suw2      | E255S     | Domini            | 2.133x |
| peSsut1su2    | E13P      | Domine            | 2.133x |
| pesu1sux1     | H25E      | angelum           | 1.7x   |
| pe-1su1suw1   | H29E      | deprecabuntur     | 1.7x   |
| pesu1sut1 Cf. | pesu1sut3 | minus 2 tractulis |        |
| pe-1su1sut1   | H306N     | de                | 2.0x   |
| pe-1su1sut2   | H305G     | Mariae            | 2.0x   |
| pe-1su1suu2   | H305G     | vidente           | 2.0x   |
| pe-1suu1su2   | H180U     | exhortabamini     | 1.75x  |
| pe-su4        | C139A     | Alleluia          |        |
| pesuv1su1sut1 | C139A     | Alleluia          |        |

#### scandicus flexus

|         |       |             |      |
|---------|-------|-------------|------|
| sf      | C64Q  | habitat     |      |
| sflsc3  | C27E  | Deus        |      |
| sf-     | C39B  | est         |      |
| sfS     | C97D  | Deus        |      |
| toppu1  | C103C | Cantemus    |      |
| Cf. sfM |       |             |      |
| sc>     |       |             |      |
| to>pp2  | E324R | testamentum | 2.0x |

#### torculus resupinus

|        |       |                 |        |
|--------|-------|-----------------|--------|
| tr     | C25U  | edoce           |        |
| tr1st2 | E69P  | eius            | 2.0x   |
| tr-1   | C38T  | meo             |        |
| trS    | C58A  | Domine          |        |
| trG    | E336I | fecisti         | 2.166x |
| trG1   | G25P  | ei              |        |
| trG2   | E147L | Laetare         | 2.166x |
| trM    | E336I | resistere       | 2.166x |
| tr>    | C82V  | nonconfundentur |        |
| tr~    | C60S  | Altissimus      |        |
| tr--   | C27Q  | et              |        |
| tr--1  | C107A | Alleluia.       |        |
| trS-   | C89T  | pedes,          |        |
| trS1   | E26L  | ecieieue        | 2.166x |
| tr-3   | H323D | honore          | 2.0x   |
| trsu3  | C95D  | eius.           |        |

#### stroph

|     |       |              |        |
|-----|-------|--------------|--------|
| st  | C80Q  | commovebitur |        |
| st- | C52P  | Desiderium   |        |
| stS | E263V | est.         | 2.166x |
| st> | C49I  | servum       |        |

#### distropha

|        |      |          |  |
|--------|------|----------|--|
| ds     | C460 | super    |  |
| ds1sx6 | C45S | forma    |  |
| ds-    | C81E | Domine   |  |
| ds>    | C38A | Alleluia |  |

#### tristropha

|        |       |               |      |
|--------|-------|---------------|------|
| ts     | C80Q  | Dominus       |      |
| ts1sx6 | C44D  | mansuetudinem |      |
| ts-    | C150L | ibimus        |      |
| tsM    | C62M  | anima         |      |
| ts>    | C62M  | conculcantes  |      |
| tsM-   | A26F  | ego           |      |
| tsM>   | H45H  | aeterna       | 2.0x |

#### trigonus

|      |       |           |  |
|------|-------|-----------|--|
| tg   | C80Q  | aeternum  |  |
| tg1  | C81E  | antiquis. |  |
| tgS  | C139B | omnibus   |  |
| tgS1 | N171D | mei       |  |
| tgS3 | C61I  | laetitia. |  |
| tgM  | C118C | Dominus   |  |
| tgS- | C118C | Dominus   |  |
| tgS4 | C86D  | mei       |  |

#### bivirga

|     |      |           |  |
|-----|------|-----------|--|
| bv  | C26D | Propterea |  |
| bv- | C82B | populus   |  |
| bv> | H33I | montes    |  |

#### trivirga

|     |      |          |  |
|-----|------|----------|--|
| tv  | C56D | pretioso |  |
| tv- | C61I | eius.    |  |

#### pressus

|    |      |          |  |
|----|------|----------|--|
| pr | C26A | Alleluia |  |
| pi | C82R | Domine,  |  |

|                     |                           |               |        |
|---------------------|---------------------------|---------------|--------|
| piM1 Cf.            | piM1sut1 minus subpunctis |               |        |
| prlsc2              | E339S                     | Si            | 2.166x |
| pr-lsc3             | C122I                     | Dei           |        |
| prlst2              | C145L                     | tuo           |        |
| pilsc2              | C122I                     | Dei           |        |
| pilst2              | C26A                      | Alleluia      |        |
| pr-                 | C59D                      | Si            |        |
| prM                 | E173E                     | insurgentibus | 2.166x |
| pr>                 | H72H                      | in            |        |
| pi>                 | H103M                     | Magnus        |        |
| Cf.                 | vs>                       |               |        |
| Cf.                 | or>                       |               |        |
| <b>virga strata</b> |                           |               |        |
| vs                  | C148A                     | generatio     |        |
| vslsc3              | C39B                      | nomine        |        |
| vslst2              | E195D                     | suis,         | 2.166x |
| vs-                 | C82B                      | Domini        |        |
| vs>                 | C64Q                      | pennis        |        |
| ta>                 |                           |               |        |
| vs->                | A22V                      | Rama          |        |
| <b>oriscus</b>      |                           |               |        |
| or                  | H112S                     | candidior     |        |
| or>                 | C148V                     | salutari      |        |
| <b>salicus</b>      |                           |               |        |
| sa                  | C27E                      | super         |        |
| sa1                 | C148A                     | Alleluia.     |        |
| salsfr1             | E3D                       | Deus          | 2.166x |
| sa-                 | C25U                      | tuas          |        |
| sa-1                | G30E                      | tribulationis |        |
| saG                 | C107A                     | Alleluia.     |        |
| saM                 | H16V                      | venient       | 1.7x   |
| saM1                | H23E                      | homo          | 1.71x  |
| saM2                | C27Q                      | regis         |        |
| saM4                | E10P                      | omnis         | 2.166x |
| saM5 Cf.            | saM5ppt1 minus tractulus  |               |        |
| saM6                | H153V                     | dicam         | 2.0x   |
| sa>                 | C27E                      | sanctos       |        |
| sa->1               | H77A                      | magi          |        |
| Cf.                 | pe>2                      |               |        |
| sa!clS1             | C80Q                      | sicut         |        |
| sa!clS-1            | C27Q                      | tuam          |        |
| sa!clS1lsc2         | C46B                      | Deus          |        |
| sa-lsfr1            | C134B                     | nomen         |        |
| sa!cl>              | G45D                      | respexit      | 0.85x  |
| sa!cl>              | G22D                      | euge          | 0.85x  |
| sa!cl               | G1410                     | fortitudo     | 0.85x  |
| saM-1               | G139A                     | Domine        | 0.85x  |
| sa!cl-              | G132V                     | Alleluia.     | 0.85x  |
| saM3                | N53A                      | fratres       |        |
| saM-4               | N296V                     | amoris        |        |
| sa>2                | H73S                      | viderunt      |        |
| sa!cl->             | H32N                      | eius          | 1.7x   |
| sapp1               | H320R                     | venite        | 2.0x   |
| saM5ppt1            | H392I                     | de            | 1.5x   |
| <b>pes quassus</b>  |                           |               |        |
| pq                  | C27E                      | sacrificia.   |        |
| pqlsfr1             | C150L                     | nostri        |        |
| pq-                 | C148V                     | nostro        |        |
| pq>                 | C84T                      | pupillo       |        |
| pqS                 | C52T                      | maiestate     |        |
| pqS>                | H424M                     | potentiam     |        |
| pqS-                | H411C                     | os            | 2.0x   |
| pq!cl>              | G57F                      | firmamentum   | 0.85x  |
| pq!cl               | E23T                      | Domini        | 2.166x |
| <b>quilisma</b>     |                           |               |        |
| ql                  | C80Q                      | commovebitur  |        |
| qi                  | C103C                     | Hic           |        |
| ql-                 | C148A                     | generatio     |        |
| qi-                 | H28Q                      | veniet.       |        |
| ql>                 | C40V                      | gentium       |        |
| qi>                 | C28A                      | et            |        |
| ql->                | H430                      | Salvator      | 2.0x   |
| <b>pes stratus</b>  |                           |               |        |
| pt                  | C140Q                     | et            | 0.85x  |

|                        |       |                    |      |
|------------------------|-------|--------------------|------|
| <b>subpunctis</b>      |       |                    |      |
| su2 Cf.                |       | ci                 |      |
| su3 Cf.                |       | ci1                |      |
| su1sut1 Cf.            |       | ciS                |      |
| sut2 Cf.               |       | ciS1               |      |
| suu1su2 Cf.            |       | visu1su2           |      |
| su1suw1 Cf.            |       | ciM                |      |
| su1sux1 Cf.            |       | ci>                |      |
| su1sut2 Cf.            |       | visu1sut2          |      |
| su1suu1 Cf.            |       | visu1suu1          |      |
| su2suw1 Cf.            |       | visu2suw1          |      |
| su2sux1 Cf.            |       | vi-su2sux1         |      |
| sut1su2 Cf.            |       | visut1su2          |      |
| sut1suw1 Cf.           |       | pe-1sut1suw1       |      |
| sut3 Cf.               |       | visut3             |      |
| suv1su2 Cf.            |       | visuv1su2          |      |
| sut4 Cf.               |       | visut4             |      |
| sut5 Cf.               |       | peSpt2sut5         |      |
| su1suv1 Cf.            |       | visu1suv1          |      |
| suu2su2 Cf.            |       | vi-su2su2          |      |
| suu1su1sut2 Cf.        |       | qi-ppt1suu1su1sut2 |      |
| suu1sut1su2 Cf.        |       | vi-su1sut1su2      |      |
| sut2su2 Cf.            |       | visut2su2          |      |
| su1sut3 Cf.            |       | pesu1sut3          |      |
| su2suv1 Cf.            |       | pesu2suv1          |      |
| sut3suw1 Cf.           |       | visut3suw1         |      |
| sut3sux1 Cf.           |       | bv-sut3sux1        |      |
| su1sut1sux1 Cf.        |       | visu1sut1sux1      |      |
| su1sut1su2 Cf.         |       | visu1sut1su2       |      |
| su1sut1su1sut1 Cf.     |       | visu1sut1su1sut1   |      |
| sut1sux1 Cf.           |       | visut1sux1         |      |
| su4 Cf.                |       | vi-su4             |      |
| su1sut2su1 Cf.         |       | vi-su1sut2su1      |      |
| su1sut1suy1 Cf.        |       | visu1sut1suy1      |      |
| sut3suy1 Cf.           |       | visut3suy1         |      |
| sut2suy1 Cf.           |       | visut2suy1         |      |
| su5 Cf.                |       | visu5              |      |
| su1suu1su2 Cf.         |       | visu1suu1su2       |      |
| su1suu2 Cf.            |       | vi-su1suu2         |      |
| su1suu1su1 Cf.         |       | vi-su1suu1su1      |      |
| su3sut1 Cf.            |       | pe-su3sut1         |      |
| suu2 Cf.               |       | ql-ppt1suu2        |      |
| su2sut1 Cf.            |       | vi-su2sut1         |      |
| su2suy1 Cf.            |       | pe-su2suy1         |      |
| suw2 Cf.               |       | pe-1suw2           |      |
| sut2suu1 Cf.           |       | ql-ppt1sut2suu1    |      |
| suu3 Cf.               |       | vi-su3             |      |
| suu5 Cf.               |       | vippt2suu5         |      |
| su1 Cf.                |       | ci                 |      |
| sut1 Cf.               |       | ciS1               |      |
| su1suv1su2 Cf.         |       | ql-ppt2su1suv1su2  |      |
| sut1suu1 Cf.           |       | vi-sut1suu1        |      |
| suv1su1sut1 Cf.        |       | pesuv1su1sut1      |      |
| <b>prepunctis</b>      |       |                    |      |
| pp2 Cf.                |       | vi-pp2             |      |
| ppu2 Cf.               |       | scS                |      |
| ppt2 Cf.               |       | sfS                |      |
| ppu3                   | C47I  | Sede               |      |
| ppu4                   | C58A  | Domine             |      |
| ppu5                   | C50G  | confregit          |      |
| pp4                    | C780  | escam              |      |
| pp3 Cf.                |       | pp4                |      |
| ppt3 Cf.               |       | vi>ppt3            |      |
| ppt4                   | N69G  | amin.              |      |
| ppt5                   | A56C  | videant            |      |
| pp1 Cf.                |       | vi-pp2             |      |
| <b>combined glyphs</b> |       |                    |      |
| cl!pi                  | C82R  | Domine             |      |
| cl!pilsc1st3           | C89T  | manum              |      |
| cl!pilsc2              | C149A | cantabo            |      |
| cl!pisu1st2            | H30T  | pauperes           | 2.0x |

|                                |                                                                                   |
|--------------------------------|-----------------------------------------------------------------------------------|
| cl!pisu1 Cf. <sup>T</sup>      | cl!pisu1st2 minus letter                                                          |
| cl!pr                          | G51S ipsa <span style="border: 1px solid black; padding: 2px;">0.85x</span>       |
| cl!pi                          | E35E illis <span style="border: 1px solid black; padding: 2px;">2.166x</span>     |
| ql!cl                          | C148A Domine                                                                      |
| ql!cl!cl> Cf. <sup>u</sup>     | ql!cl!cl>ppt1 minus tractulus                                                     |
| ql!cl!pi Cf. <sup>u</sup>      | ql!cl!pippt1 minus tractulus                                                      |
| ql!pf-                         | G42D mane <span style="border: 1px solid black; padding: 2px;">0.85x</span>       |
| ql!pf                          | G35D Domine                                                                       |
| ql!cl-                         | C26A Alleluia                                                                     |
| ql!clM Cf. <sup>u</sup>        | ql!clMppt1 minus tractulus                                                        |
| ql!cl-> Cf. <sup>u</sup>       | ql!cl->ppt1 minus tractulus                                                       |
| ql!cl>                         | H26L salva <span style="border: 1px solid black; padding: 2px;">0.5x</span>       |
| ql!cl>1                        | H411D nomen <span style="border: 1px solid black; padding: 2px;">2.0x</span>      |
| ql!po                          | C148V nostro                                                                      |
| ql!po-1                        | C148A Alleluia.                                                                   |
| ql!po>                         | H33I terram                                                                       |
| ql!vs                          | C148A refugium                                                                    |
| ql!vssu2 Cf. <sup>u</sup>      | ql!vsppt1su2 minus tractulus                                                      |
| ql!vssut2 Cf. <sup>u</sup>     | ql!vssppt1sut2 minus tractulus                                                    |
| qi!vs Cf. <sup>u</sup>         | qi!vssu2 minus subbipunctis                                                       |
| qi!vssu2 Cf. <sup>u</sup>      | qi!vsppt1su2 minus tractulus                                                      |
| qi!vssu1sut2 Cf. <sup>u</sup>  | qi!vsppt1su1sut2 minus tractulus                                                  |
| ql-su1suu1 Cf. <sup>u</sup>    | ql-ppt1su1suu1 minus tractulus                                                    |
| ql-su1suv1su2 Cf. <sup>u</sup> | ql-ppt2su1suv1su2 minus tractulis                                                 |
| qisu2                          | E166C sermones <span style="border: 1px solid black; padding: 2px;">2.0x</span>   |
| qisut2 Cf. <sup>u</sup>        | qippt2sut2 minus tractulis                                                        |
| ql-su3 Cf. <sup>u</sup>        | ql-ppt1su3 minus tractulus                                                        |
| qlsut3 Cf. <sup>u</sup>        | qlppt1sut3 minus tractulus                                                        |
| qlsu2 Cf. <sup>u</sup>         | qlppt1su2 minus tractulus                                                         |
| ql-su2 Cf. <sup>u</sup>        | ql-ppt1su2 minus tractulus                                                        |
| ql-sut2                        | H73S cedebat                                                                      |
| ql-su1sux1 Cf. <sup>u</sup>    | ql-ppt1su1sux1 minus tractulus                                                    |
| ql-su1sut2 Cf. <sup>u</sup>    | ql-ppt1su1sut2 minus tractulus                                                    |
| ql-sut1sux1                    | H72H complacui                                                                    |
| ql-suu2 Cf. <sup>u</sup>       | ql-ppt1suu2 minus tractulus                                                       |
| ql-sut2su1 Cf. <sup>u</sup>    | ql-ppt1sut2su1 minus tractulus                                                    |
| ql-sut2suu1 Cf. <sup>u</sup>   | ql-ppt1sut2suu1 minus tractulus                                                   |
| qi-su2                         | H73S cedebat                                                                      |
| qi-su1sut2 Cf. <sup>u</sup>    | qi-ppt1su1sut2 minus tractulus                                                    |
| qi-su1su1sut2 Cf. <sup>u</sup> | qi-ppt1su1su1sut2 minus tractulus                                                 |
| qi-su1sux1                     | H26G certamine <span style="border: 1px solid black; padding: 2px;">1.7x</span>   |
| ql-su1suu2                     | H34F facinora <span style="border: 1px solid black; padding: 2px;">1.71x</span>   |
| qi!cl                          | C82B spiritu                                                                      |
| qi!cl-                         | C148A factus                                                                      |
| qi!cl>                         | H77S Magi                                                                         |
| qi!cl->                        | H2590 sanctor <span style="border: 1px solid black; padding: 2px;">2.0x</span>    |
| qi!po                          | H87E Deus                                                                         |
| qi!po>                         | H173C aduersum <span style="border: 1px solid black; padding: 2px;">1.9x</span>   |
| pf!clM-ppt1                    | E3270 narante <span style="border: 1px solid black; padding: 2px;">2.166x</span>  |
| cl!po>ppt1                     | E3270 narante <span style="border: 1px solid black; padding: 2px;">2.166x</span>  |
| qlppt1                         | C38T Sede                                                                         |
| qippt1                         | C37A Domine                                                                       |
| qi!clppt1                      | C88T hostias,                                                                     |
| ql-ppt1                        | C26D laetitia.                                                                    |
| ql>ppt1                        | C38T virtutis                                                                     |
| qi>ppt1                        | C60S terram.                                                                      |
| qisut1sux1                     | H269S linguarum                                                                   |
| qlsut2                         | H269D alleluia                                                                    |
| qi-sut2                        | H269D alleluia                                                                    |
| qi-ppt1su1sut2                 | H269R magnalia                                                                    |
| qi-ppt1suu1su1sut2             | H392L visitasti <span style="border: 1px solid black; padding: 2px;">1.5x</span>  |
| ql!cl>ppt1                     | H730 aurum                                                                        |
| ql!clppt1                      | C39B Domini:                                                                      |
| ql!cl!cl>ppt1                  | E133I corda <span style="border: 1px solid black; padding: 2px;">2.166x</span>    |
| ql!cl!pippt1                   | E31T maris <span style="border: 1px solid black; padding: 2px;">2.166x</span>     |
| ql!cl-ppt1                     | C40A terram.                                                                      |
| ql!clMppt1                     | E324R tuum <span style="border: 1px solid black; padding: 2px;">2.166x</span>     |
| ql!cl->ppt1                    | G132A Alleluia. <span style="border: 1px solid black; padding: 2px;">0.85x</span> |
| ql!clSppt1                     | H239R qui <span style="border: 1px solid black; padding: 2px;">2.0x</span>        |
| ql!clS Cf. <sup>u</sup>        | ql!clSppt1 minus tractulus                                                        |
| ql!clS-2ppt1sut1               | E3D et. <span style="border: 1px solid black; padding: 2px;">2.0x</span>          |
| ql!clS-2sut1 Cf. <sup>u</sup>  | ql!clS-2ppt1sut1 minus tractulus                                                  |
| ql!clS-2ppt1 Cf. <sup>u</sup>  | ql!clS-2ppt1sut1 minus tractulus                                                  |
| ql!clS-2 Cf. <sup>u</sup>      | ql!clS-2ppt1sut1 minus 2 tractulis                                                |

|                              |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|
| ql!poppt1                    | C59D Domine.                                                                        |
| ql!po-1ppt1                  | C58A homo.                                                                          |
| ql!po~ppt1                   | H179L pauperem                                                                      |
| ql!po~ Cf. <sup>u</sup>      | ql!po~ minus tractulus                                                              |
| ql-ppt1su2                   | H72V Jerusalem                                                                      |
| ql-ppt1su1sux1               | H730 Reges                                                                          |
| ql-ppt1su1sut2               | H75I patris                                                                         |
| ql-ppt1suu2                  | H72H Hic                                                                            |
| ql-ppt1sut2su1               | H414E faciat <span style="border: 1px solid black; padding: 2px;">2.0x</span>       |
| ql-ppt1sut2suu1              | H16M altissimi <span style="border: 1px solid black; padding: 2px;">1.7x</span>     |
| ql!vsppt1su2                 | H730 Domino                                                                         |
| ql!vsppt1 Cf. <sup>u</sup>   | ql!vsppt1su2 minus subbipunctis                                                     |
| ql!vsppt1sut2                | H73S gaudio                                                                         |
| qi!vsppt1su2                 | H74I Domini                                                                         |
| qi!vsppt1su1sut2             | H392L viderent <span style="border: 1px solid black; padding: 2px;">1.5x</span>     |
| qi-sut3                      | H322B in <span style="border: 1px solid black; padding: 2px;">2.0x</span>           |
| ql-ppt1su1suu1               | H305H David <span style="border: 1px solid black; padding: 2px;">2.0x</span>        |
| ql-ppt1su3                   | H323D subire <span style="border: 1px solid black; padding: 2px;">2.0x</span>       |
| qlppt1sut3                   | H305G Redemptorem <span style="border: 1px solid black; padding: 2px;">2.0x</span>  |
| qlppt1su2                    | E166C secundum <span style="border: 1px solid black; padding: 2px;">2.0x</span>     |
| ql-ppt2su1suv1su2            | H306N illustrat <span style="border: 1px solid black; padding: 2px;">2.0x</span>    |
| ql-su1sut1                   | H307F iustitiae <span style="border: 1px solid black; padding: 2px;">2.0x</span>    |
| qippt2sut2                   | H297B generationes <span style="border: 1px solid black; padding: 2px;">2.0x</span> |
| ql!vssu3                     | H443V ei <span style="border: 1px solid black; padding: 2px;">2.0x</span>           |
| to!ciG                       | E51R eum <span style="border: 1px solid black; padding: 2px;">2.0x</span>           |
| to!ciG                       | C28T gloriae.                                                                       |
| to!cl                        | C84T pupillo                                                                        |
| to!cl!cl!cl                  | C64Q sepavit,                                                                       |
| to!cl>                       | H407P huius <span style="border: 1px solid black; padding: 2px;">2.0x</span>        |
| to!cl!po                     | E31T veritas <span style="border: 1px solid black; padding: 2px;">2.166x</span>     |
| to!cl!po-1                   | N100T veritas                                                                       |
| to!cl!pi                     | C45S mea                                                                            |
| to!cl-                       | N86D propterea                                                                      |
| to!cl-!cl-                   | C54A Adducentur                                                                     |
| to!cl-1                      | C45S filiis                                                                         |
| to!cl->                      | H49C aeternum <span style="border: 1px solid black; padding: 2px;">2.0x</span>      |
| to!clS                       | C43A terram.                                                                        |
| to!clM1ss8                   | H406D mihi <span style="border: 1px solid black; padding: 2px;">2.0x</span>         |
| to!clM Cf. <sup>u</sup>      | to!clM1ss8 minus letter                                                             |
| to!cl!cl                     | C43A Domini,                                                                        |
| to!po                        | C64Q sagitta                                                                        |
| to!posu2                     | C49I eo,                                                                            |
| to!pr                        | G11V Deo <span style="border: 1px solid black; padding: 2px;">0.85x</span>          |
| to!pi                        | C60C tui.                                                                           |
| toSsu2                       | H72H mihi                                                                           |
| toS!cl-lsi8                  | H398E Domine <span style="border: 1px solid black; padding: 2px;">2.0x</span>       |
| toS!cl- Cf. <sup>u</sup>     | toS!cl-lsi8 minus letter                                                            |
| toS!cl1si8                   | H398E sapientiam <span style="border: 1px solid black; padding: 2px;">2.0x</span>   |
| toS!cl Cf. <sup>u</sup>      | toS!cl1si8 minus letter                                                             |
| pf!cl-                       | G51I meus                                                                           |
| pf!clM- Cf. <sup>u</sup>     | pf!clM-ppt1 minus tractulus                                                         |
| pf!pr                        | G9A Alleluia                                                                        |
| cl!po> Cf. <sup>u</sup>      | cl!po>ppt1 minus tractulus                                                          |
| cl!cl>1                      | N67G mundi                                                                          |
| cl!clSsut2                   | E256C psallite <span style="border: 1px solid black; padding: 2px;">2.166x</span>   |
| cl!clS Cf. <sup>u</sup>      | cl!clSsut2 minus 2 tractulis                                                        |
| cl!po                        | C26A nobis.                                                                         |
| cl!po-1                      | H119C in                                                                            |
| tr-1su2                      | H730 dona                                                                           |
| trSsut2                      | H305H devotissime <span style="border: 1px solid black; padding: 2px;">2.0x</span>  |
| ci-pp2                       | H73S magno                                                                          |
| toS2su2                      | H73S eam                                                                            |
| toS2sut2                     | C150L dicta                                                                         |
| to-1su2                      | H322C ostendere <span style="border: 1px solid black; padding: 2px;">2.0x</span>    |
| to-1su1                      | H323B Gallus <span style="border: 1px solid black; padding: 2px;">2.0x</span>       |
| to-1suu1                     | H173I me <span style="border: 1px solid black; padding: 2px;">1.8x</span>           |
| to-1suu1su2                  | H324V cognovi <span style="border: 1px solid black; padding: 2px;">2.0x</span>      |
| po-1pp2su1sux1               | H323D desiderium <span style="border: 1px solid black; padding: 2px;">2.0x</span>   |
| po-1su1sux1 Cf. <sup>u</sup> | po-1pp2su1sux1 minus bipunctis                                                      |
| pisu1                        | H307N annuntiavit <span style="border: 1px solid black; padding: 2px;">2.0x</span>  |
| pisut1                       | C153B Alleluia                                                                      |
| piM1sut1                     | H338D ad <span style="border: 1px solid black; padding: 2px;">2.0x</span>           |
| pq-su2                       | C132D praetioso                                                                     |
| pe!vi                        | C57B qui                                                                            |

|                               |               |       |                              |                       |        |
|-------------------------------|---------------|-------|------------------------------|-----------------------|--------|
| ts                            | tgsuu1        | C49I  | eum.                         |                       |        |
| ts                            | tgSsuu1       | C57B  | nimis.                       |                       |        |
| ts                            | bv-sut2       | H179U | fuisset.                     | 1.75x                 |        |
| ts                            | bv-sut3sux1   | H406A | favilla                      | 2.0x                  |        |
| ts                            | sa-su1sut1    | H296S | electa                       | 2.0x                  |        |
| ts                            | sa-su2sut1    | C49I  | eum                          |                       |        |
| ts                            | peSppt2sut5   | H401A | multiplicentur               | 2.0x                  |        |
| ts                            | peSppt2 Cf. ✓ |       | peSppt2sut5 minus subpunctis |                       |        |
| ts                            | peSsut5 Cf. ✓ |       | peSppt2sut5 minus prepunctis |                       |        |
| ts                            | vippt2suu5    | H405S | me                           | 2.0x                  |        |
| <b>significantive letters</b> |               |       |                              |                       |        |
| am                            | lsam          | C87E  | abstraxisti                  | altius                |        |
| z                             | lsal          | E20E  | Sion,                        | altius mediocriter    | 2.166x |
| t                             | lsb           | C39B  | Domino                       | bene                  |        |
| c                             | lsc           | C27E  | eius                         | celeriter             |        |
| c                             | lscw          | C148V | nostro.                      | celeriter (wide form) |        |
| c                             | lSCO          | C134B | nomen                        | coniunguntur          |        |
| cm                            | lscm          | C58A  | oblivio                      | celeriter mediocriter |        |
| d                             | lsd           | E11C  | Virgo                        | deprimatur            | 1.85x  |
| e                             | lse           | C84T  | adiutor                      | equaliter             |        |
| e                             | lseq          | H266D | si                           | equaliter (wide form) |        |
| eq                            | lseq          | C64Q  | viis                         | equaliter             |        |
| fid                           | lsfid         | E16B  | Domino                       | fideliter             | 2.166x |
| f                             | lsfr          | C58A  | non                          | frendor               |        |
| g                             | lsg           | C27Q  | ovem                         | guttare               |        |
| i                             | lsi           | C87E  | Domine                       | iusum                 |        |
| im                            | lsim          | E336I | universa                     | iusum mediocriter     | 2.166x |
| iv                            | lsiv          | E92I  | misericors                   | iusum valde           | 2.166x |
| k                             | lsk           | C62M  | confidit                     | klenge                |        |
| l                             | lsl           | C38T  | Tecum                        | levare                |        |
| lb                            | lslb          | C58A  | non                          | levare bene           |        |
| lc                            | lslc          | E151A | ab                           | levare celeriter      | 2.166x |
| len                           | lslen         | C59D  | servitui.                    | leniter               |        |
| lm                            | lslm          | C38T  | Tecum                        | levare mediocriter    |        |
| lp                            | lslp          | E161S | dicit                        | levare parvum         | 2.166x |
| lt                            | lslt          | E148L | Laudate                      | levare tenete         | 2.0x   |
| m                             | lsm           | C38T  | principium                   | mediocriter           |        |
| moll                          | lsmoll        | E33V  | finis                        | molliter              | 2.166x |
| p                             | lsp           | C64Q  | altissimi                    | parvum                |        |
| par                           | lspar         | E104S | miserere                     | paratim               | 2.166x |
| pfec                          | lspfec        | E2D   | fructum                      | perfecte              | 2.166x |
| pm                            | lspm          | C40V  | suam.                        | parvum mediocriter    |        |
| pulcre                        | lspulcre      | E64L  | hac                          | pulcre                | 2.0x   |
| r                             | lss           | C27E  | sanctos                      | sursum                |        |
| rb                            | lssb          | C40V  | iustitiam                    | sursum bene           |        |
| rc                            | lssc          | C84T  | Tibi                         | sursum celeriter      |        |
| simil                         | lssimil       | E193D | ne                           | similiter             | 2.166x |
| simul                         | lssimul       | E42A  | sumus.                       | simul                 | 2.166x |
| sm                            | lssm          | C59D  | Si                           | sursum mediocriter    |        |
| st                            | lsst          | C87E  | Domine                       | sursum tenere         |        |
| st                            | lssta         | C27E  | Congregate                   | statim                |        |
| t                             | lst           | C39B  | Domino                       | tenete                |        |
| t                             | lstw          | C58A  | non                          | tenete (wide form)    |        |
| tb                            | lstb          | C39B  | Domino                       | tenete bene           |        |
| tm                            | lstm          | E3D   | tu                           | tenete mediocriter    | 2.166x |
| v                             | lsv           | E1310 | semper                       | valde                 | 2.0x   |
| vot                           | lsvol         | C58A  | aeternum                     | volubiliter           |        |
| x                             | lsx           | C87E  | me:                          | expectare             |        |

# manuscript sources of the grelaon font

The list of glyphs uses following abbreviations for manuscript references; the page number is always for the start of some antiphon, responsory, mass propers, even when the actual neume is on a later page. At the end of lines, GT stands for Graduale Triplex, Solesmes, 1979, OT for Offertoriale Triplex, Solesmes, 1985, GN for Graduale Novum de Dominicis et Festis, Conbrio Verlag Regensburg, 2011, followed by page number which also contains the corresponding propers, antiphons or responsories.

All the grelaon font glyphs taken from the LAON\_BM\_ms239 codex with the permission from the Bibliothèque municipale de la ville de Laon <http://manuscrit.ville-laon.fr>, the picture fragments from there are only present in the font source file to help drawing the glyphs.

## Graduale Laudunensis, codex 239

L1 = [http://manuscrit.ville-laon.fr/\\_app/\\_visualisation.php?cote=Ms239&vue=9](http://manuscrit.ville-laon.fr/_app/_visualisation.php?cote=Ms239&vue=9)

L8U Universi qui te GT16  
L8A Ad te Domine levavi OT5  
L8D Dominus dabit GT17  
L9E Ex Sion species GT18  
L10I Ierusalem surge GT20  
L11Q Qui sedes, Domine GT22  
L13A Ave Maria GT36  
L14P Prope es tu Domine GT24  
L14O Ostende nobis GT31  
L17H Hodie sciētis GT38  
L18L Laetentur caeli GT44  
L19B Benedictus qui venit GT45  
L20P Puer natus est GT47  
L24D Dexterā Domini GT194  
L24T Timebunt gentes GT265  
L25L Laetabitur iustus GT473  
L25M Mirabantur omnes GN232  
L28G Gaudeamus omnes GT545  
L31D De profundis GT673  
L33S Sciant gentes GT88  
L33C Commovisti Domine GT89  
L33P Perfice gressus OT90  
L34E Esto mihi in Deum GT275  
L35T Tu es Deus GT244  
L37M Misereris omnium GT62  
L37S Miserere mei Deus GT63  
L38I lacta cogitatum GT285  
L40Q Qui habitat GT73  
L43L Levabo oculos meos GT78  
L43S Scapulis suis GT77  
L43I Sicut oculi servorum GT77  
L44D Domine refugium GT79  
L44I Dirigatur oratio GT340  
L45R Reminiscere miserationum GT81  
L53C Confitemini Domino GT158  
L54A Adiutor meus GT86  
L54B Benedicam Dominum OT88  
L56D Deus in adiutorium GT315  
L56S Salvum fac populum GT354  
L56I Iustus Dominus GT93  
L56P Propitius esto Domine GT288  
L58A Ad Dominum dum tribularer GT282  
L60E Exsurge Domine GT96  
L60A Ad te levavi GT97  
L61I Iustitiae Domini GT309  
L64O Oculi omnium GT343  
L64D Domine fac mecum OT37  
L67Q Qui biberit aquam GT99  
L67S Si ambulem GT125  
L68N Nemo te condemnavit GT124  
L68Q Qui confidunt GT109  
L71D Dum sanctificatus fuero GT249  
L72B Benedicite gentes GT231  
L75V Videns Dominus GT124  
L76E Eripe me Domine GT121  
L77S Saepe expugnaverunt GT122  
L77C Confitebor tibi Domine GT123

L78H Hoc corpus GT170  
L80S Sperent in te omnes GT286  
L81E Exaltabo te Domine GT112  
L81R Eripe me de inimicis GT129  
L82O Omnia quae fecisti GT342  
L82T Tollite hostias GT272  
L84B Benedictus es, Domine OT48  
L90D Deus Deus meus GT144  
L92E Exsurge Domine GT150  
L93E Erubescant et vereantur GT152  
L93G Ego autem dum mihi GT152  
L94C Custodi me Domine GT154  
L95D Domine, exaudi orationem GT172  
L99P Popule meus quid GT176  
L101V Vineā facta est GT188  
L103R Resurrexi GT196  
L103H Haec dies GT196  
L103P Alleluia Pascha nostrum GT197  
L103T Terra tremuit GT199  
L104I Introduxit vos Dominus GT200  
L105A Angelus Dominus GT217  
L105N Angelus Dominus GT201  
L106S Surrexit Dominus GT207  
L107H Haec dies GT206  
L109P Populus acquisitionis GT210  
L112D Deus Deus meus GT224  
L112O Omnes qui in Christo GT61  
L113E Ego sum pastor GT224  
L114C Cantate Domino GT225  
L114V Vocem iucunditatis GT229  
L117R Repleti sumus GT441  
L118E Ego sum vitis vera GT228  
L122N Non vos relinquam GT232  
L122V Viri Galilaei OT172  
L123A Ascendit Deus GT237  
L123E Exaudi Domine vocem GT241  
L125U Ultimo festivitatis GT251  
L125S Spiritus Domini GT252  
L126F Factus est repente GT256  
L128S Spiritus ubi vult spirat GT218  
L132E Ecce quam bonum GT351  
L136A Amen dico vobis quod vos GT436  
L138S Semel iuravi GT492  
L144C Clamaverunt iusti GT454  
L149E Ego dixi Domine GT279  
L149C Cantabo Domino qui bona GT283  
L152S Sicut in holocausto GT299  
L152I Inclina aurem tuam GT300  
L164D De profundis GT368  
L168I Iubilare Deo GT258  
L168S Specie tua GT416  
L168L Laudate Deum GT262  
L169A Adorabo ad templum GT270  
L173D Deus iudes iustus GT286  
L174D Domine in virtute tua GT292  
L174I In te Domine speravi GT296  
L174O Omnes gentes plaudite manibus GT298  
L174T Te dece hymnus GT305

|   |                  |              |                  |
|---|------------------|--------------|------------------|
|   | <b>uncinus</b>   |              |                  |
| u | un               | L78H         | testamenti       |
| u | un1              | L78H         | calix            |
| u | un2 Cf. 7        | un2lsm1      | minus letter     |
| u | un2lsm1          | L820         | fecisti          |
| u | unlsm1           | L75V         | qui              |
| u | unlst1           | L103R        | alleluia         |
| u | unlst2           | L820         | fac              |
| u | unlst8           | L24D         | opera            |
| u | un1lst8          | L1120        | Christo          |
| u | unlsm2lss3lst8   | L43S         | scuto            |
|   | <b>punctum</b>   |              |                  |
| . | pu               | L820         | iudicio          |
| . | pu1              | L56D         | reverentur       |
| . | pulsnt3          | L75V         | flentes          |
|   | <b>virga</b>     |              |                  |
| v | vi               | L820         | Domine           |
| v | viS Cf. 7        | vipp2su2     | minus punctis    |
| v | vi>              | L78H         | in               |
| v | vi>1 Cf. 7       | vi>1lsa2lsc8 | minus letters    |
| v | vi>2             | L820         | nobiscum         |
| v | vilst1           | L78H         | meam             |
| v | vilst2           | L95D         | meus             |
| v | vilst9           | L105A        | quaeritis,       |
| v | vilss1           | L103P        | Alleluia.        |
| v | vilss2           | L95D         | avertas          |
| v | vilssst1         | L103P        | Alleluia.        |
| v | vilst2lsa8       | L95D         | eius.            |
| v | vi>lsa6          | L78H         | testamenti       |
| v | vi>lsc6          | L56D         | adiuvandum       |
| v | vi>1lsa2lsc8     | L126F        | loquentes        |
|   | <b>tractulus</b> |              |                  |
| t | ta               | L24T         | tuam.            |
| t | ta>              | L78H         | dicit            |
| t | ta>1             | L820         | mandatis         |
| t | ta>2             | L90D         | sancto           |
| t | ta>lsn12         | L45R         | dominentur       |
| t | ta>2lsc2         | L90D         | Libera           |
|   | <b>pes</b>       |              |                  |
| p | pe               | L78H         | commemorationem  |
| p | peG              | L78H         | vobis            |
| p | pe>              | L95D         | exaudi           |
| p | pe>1             | L78H         | sanguine         |
| p | peG1             | L67S         | tua,             |
| p | pelsa2           | L820         | peccavimus       |
| p | pelsc2           | L67S         | tuus,            |
| p | pels12           | L43L         | iustitiam        |
| p | pelsm2           | L81E         | meam,            |
| p | pelsn2           | L149C        | qui              |
| p | pelsn3           | L125S        | replevit         |
| p | pelsst1          | L103P        | immolatum        |
| p | pelsst1lsm4      | L44I         | Elevatio         |
| p | pelst2           | L103H        | saeculum         |
| p | peGlsf1          | L67S         | non              |
| p | peGlsa6          | L109P        | vocavit          |
| p | pe>1lsa6         | L114V        | alleluia         |
|   | <b>porrectus</b> |              |                  |
| p | po               | L78H         | facite           |
| p | poG              | L64D         | mecum            |
| p | poM Cf. 7        | poMsun1      | minus uncinus    |
| p | po> Cf. 7        | po>pp2       | minus prepunctis |
| p | po>1             | L81E         | descendentibus   |
| p | polsf2lst3       | L95D         | meus             |
| p | polst2           | L103H        | saeculum         |
|   | <b>clivis</b>    |              |                  |
| c | cl Cf. 7         | c1lsn9       | minus letter     |
| c | clG              | L78H         | hoc              |
| c | clG1             | L105N        | accedens         |
| c | clGlsa5          | L820         | obedivimus       |
| c | clGlsn12         | L44I         | Elevatio         |
| c | clM              | L78H         | quotiescumque    |
| c | cl>              | L75V         | monumentum       |
| c | cl>1             | L34E         | locum            |
| c | c1lshn8          | L640         | imples           |

|   |                       |                      |               |
|---|-----------------------|----------------------|---------------|
| c | c1lsn8                | L95D                 | velociter     |
| c | c1lsn9                | L67S                 | tua,          |
| c | c1lsst8               | L640                 | imples        |
| c | c1lst9                | L95D                 | tempus        |
| c | c1lsst6               | L43L                 | mirabilia     |
| c | c1lsm2                | L45R                 | nobis         |
| c | c1lsnt2               | L92E                 | me            |
| c | cl>lsa5               | L71D                 | effundam      |
|   | <b>oriscus-clivis</b> |                      |               |
| o | oc                    | L78H                 | sanguine      |
| o | ocG                   | L56D                 | Deus          |
| o | ocG1                  | L11Q                 | veniet        |
| o | ocGlsa5               | L103T                | resurgeret    |
| o | oclst8                | L95D                 | Domine        |
|   | <b>torculus</b>       |                      |               |
| t | to                    | L78H                 | pro           |
| t | toS                   | L56S                 | populum       |
| t | toS1                  | L68N                 | Nemo          |
| t | toG                   | L78H                 | tradetur      |
| t | to>                   | L67S                 | mortis        |
| t | to                    | L37M                 | et            |
| t | tolstf4               | L95D                 | tempus        |
| t | tolstn8               | L44I                 | vespertinum.  |
| t | tolst9                | L103P                | Alleluia.     |
| t | tolst8                | L56I                 | Dominus,      |
| t | tolst2lst9            | L92E                 | me            |
| t | toGlsa1lst8           | L109P                | alleluia.     |
| t | toGlsa5               | L68N                 | condemnabo    |
| t | toSlsa5               | L77S                 | enim          |
| t | to>lsa5               | L118E                | in            |
| t | to>2lsa3              | L67Q                 | salientis     |
| t | to>2lsc1lsa3          | L104I                | terram        |
|   | <b>climacus</b>       |                      |               |
| c | ci                    | L95D                 | eius.         |
| c | unsun2                | L820                 | da            |
| c | unsun3                | L103P                | immolatus     |
| c | unsux1                | L169A                | sanctum       |
| c | unsun1su2             | L109P                | tenebris      |
| c | pusu1sun1             | L78H                 | tradetur      |
| c | pusu1sun2             | L95D                 | Sion          |
| c | pusu2sun1             | L95D                 | eius.         |
| c | visu1sun1             | L95D                 | faciem        |
| c | visu1sun2             | L40Q                 | latere        |
| c | visu1sun2lsa5         | L174D                | et            |
| c | visu1sun2lsa6         | L174D                | et            |
| c | visu1sun1su1 Cf. 7    | visu1sun1su1lst6     | minus letter  |
| c | visu1sun1su1lst6      | L105N                | descendit     |
| c | visu1sun1su2 Cf. 7    | visu1sun1su2lss1lst6 | minus letters |
| c | visu1sun1su2lss1lst6  | L168I                | Alleluia.     |
| c | visu2                 | L95D                 | misereberis   |
| c | visu1su1sun1          | L60E                 | conspectu     |
| c | visu1su1sun1lst6      | L35T                 | virtutem      |
| c | cilsf1                | L95D                 | Sion          |
| c | cilsn8                | L58A                 | iniquis,      |
| c | pusu1sun1lsf1         | L95D                 | mei           |
| c | pusu1sun2lsa5         | L67S                 | timebo        |
| c | pusu1sun1lst7         | L60E                 | homo          |
| c | pusu3                 | L640                 | escam         |
| c | pusu4                 | L92E                 | persequuntur. |
| c | unsun2su1             | L640                 | escam         |
| c | unsun1su1 Cf. 7       | unsun1su1lst2lsc6    | minus letters |

|                           |                |                  |
|---------------------------|----------------|------------------|
| unsun1su11st2lsc6         | L11Q           | deducis          |
| unsun21sa5                | L19B           | mirabile         |
| unsun31sa3                | L24T           | gentes           |
| unsun31sa6                | L24T           | tuam.            |
| unsun2su2                 | L169A          | confitebor       |
| un1sun2su2                | L136A          | aeternam         |
| un1sun1su1sun11sa11lsc4   | L60E           | retrorsum        |
| un1sun1su1sun11sa3lsc6    | L60E           | retrorsum        |
| un1sun1su2 Cf.            | un1sun1su21sa5 | minus letter     |
| un1sun1su21sa5            | L107H          | Domini           |
| <b>scandicus</b>          |                |                  |
| sc Cf.                    | sc1st2         | minus letter     |
| sc1                       | L820           | quia             |
| sc1st2                    | L78H           | quotiescumque    |
| sc1lsc4                   | L109P          | vocavit          |
| <b>porrectus flexus</b>   |                |                  |
| pf                        | L78H           | corpus           |
| pf1                       | L95D           | exaudi           |
| pf2                       | L101V          | Sorec,           |
| pfS                       | L56D           | festina          |
| pfM Cf.                   | pfM1smd3       | minus letter     |
| pfM1smd3                  | L81E           | meam,            |
| pf>                       | L164D          | ad               |
| pf>1                      | L90D           | miserunt         |
| pf>2                      | L104I          | alleluia,        |
| pf                        | L95D           | clamor           |
| pf 1                      | L31D           | ad               |
| <b>pes subbipunctis</b>   |                |                  |
| tosu1                     | L820           | Domine           |
| tosun1                    | L95D           | fumus            |
| tosun2                    | L105N          | revolvit         |
| vippn1su2                 | L820           | misericordiae    |
| topp1su1 Cf.              | topp1su11sa6   | minus letter     |
| topp1su11sa6              | L95D           | ad               |
| pesu2 Cf.                 | pesu21st3      | minus letter     |
| pesu21st3                 | L152I          | eruas            |
| pesun3 Cf.                | pesun31ss11sa3 | minus letters    |
| pesun31ss11sa3            | L67S           | medio            |
| pesu2sun1                 | L24T           | terrae           |
| tosun11sa5                | L67S           | tua,             |
| tosu11sc5                 | L19B           | venit            |
| toSsun11sa5               | L138S          | luna             |
| tosun1su1sun1             | L33S           | venti.           |
| tosun1su21sn31st6         | L112D          | nomine           |
| tosun21sa6                | L123A          | alleluia.        |
| <b>scandicus flexus</b>   |                |                  |
| sf                        | L78H           | meo              |
| sfG                       | L33C           | eam.             |
| <b>torculus resupinus</b> |                |                  |
| tr                        | L78H           | sumitis          |
| trS                       | L95D           | Domine,          |
| tr>                       | L64D           | diligent         |
| poppn1                    | L820           | vero             |
| po>ppn1                   | L820           | secundum         |
| po>ppn1ppz1               | L18L           | faciem           |
| po>pp2                    | L28G           | angeli,          |
| trlst31shp7               | L109P          | alleluia.        |
| tr1ss11ss3                | L103P          | Christus.        |
| trS1sc1                   | L103P          | nostrum          |
| <b>distropha</b>          |                |                  |
| ds Cf.                    | ds1st2         | minus letter     |
| ds1st2                    | L95D           | meam             |
| ds1st8                    | L71D           | effundam         |
| ds1 Cf.                   | ds1pp3         | minus prepunctis |

|                     |                      |               |       |
|---------------------|----------------------|---------------|-------|
| <b>tristropha</b>   |                      |               |       |
| ts                  | L820                 | fac           |       |
| ts1                 | L76E                 | Eripe         |       |
| ts>                 | L56D                 | adiuvandum    |       |
| ts>1                | L103R                | alleluia      |       |
| ts1sa2              | L13A                 | tecum         |       |
| ts1sc21st2          | L58A                 | Domine,       |       |
| ts>1sc2             | L103R                | alleluia      |       |
| ts>1sc6             | L103T                | dum           |       |
| <b>trigonus</b>     |                      |               |       |
| tg                  | L67S                 | tua,          |       |
| tg1sn8              | L67S                 | mala          |       |
| tg1st9              | L103R                | alleluia      |       |
| <b>bivirga</b>      |                      |               |       |
| bv                  | L820                 | Domine        |       |
| bv1sa2              | L820                 | nobis         |       |
| <b>trivirga</b>     |                      |               |       |
| tv                  | L103H                | bonus         |       |
| tv1sm2              | L44I                 | Elevatio      |       |
| <b>pressus</b>      |                      |               |       |
| pr                  | L95D                 | veniat        |       |
| pi Cf.              | c11!pi               | minus clivis  |       |
| <b>virga strata</b> |                      |               |       |
| vs                  | L64D                 | Deus          |       |
| vsG                 | L64D                 | suavis        |       |
| <b>oriscus</b>      |                      |               |       |
| or Cf.              | ocG                  | minus uncinus |       |
| or1st3              | L103P                | Alleluia.     |       |
| or1 Cf.             | ocG1                 | minus uncinus |       |
| or> Cf.             | or>1sa1              | minus letter  |       |
| or>1sa1             | L103R                | alleluia,     |       |
| <b>salicus</b>      |                      |               |       |
| sa                  | L820                 | nomini        |       |
| sa1                 | L78H                 | novi          |       |
| sa>1                | L9E                  | sanctos       |       |
| salsc4              | L93G                 | exsurge       |       |
| salsc6              | L93G                 | autem,        |       |
| sa1lsc4             | L81E                 | salvasti      |       |
| sa1lsc6             | L113E                | bonus,        |       |
| <b>pes quassus</b>  |                      |               |       |
| pq                  | L103H                | eius.         |       |
| pq1                 | L169A                | Alleluia.     | L174T |
| <b>quilisma</b>     |                      |               |       |
| q1 Cf.              | q11sst2              | minus letter  |       |
| q11sst2             | L53C                 | Domine,       |       |
| q1> Cf.             | q1>ppn1              | minus uncinus |       |
| <b>pes stratus</b>  |                      |               |       |
| pt1                 | L13A                 | ventris       |       |
| pt2                 | L8U                  | confundentur, |       |
| pt3                 | L94C                 | Domine.       |       |
| <b>subpunctis</b>   |                      |               |       |
| su1 Cf.             | c11!pi!              | tosu1         |       |
| su1sun1 Cf.         | c1!topp21su1sun1     |               |       |
| su1sun1su1 Cf.      | visu1sun1su11st6     |               |       |
| su1sun1su2 Cf.      | visu1sun1su21ss11st6 |               |       |
| su1sun2 Cf.         | pusu1sun2            |               |       |
| su1sux1 Cf.         | popp2su1sux1         |               |       |
| su2 Cf.             | c11!pi!              | pesu2         |       |
| su2sun1 Cf.         | clsu2sun11st6        |               |       |
| su3 Cf.             | pusu3                |               |       |
| su4 Cf.             | pusu4                |               |       |
| sun1 Cf.            | c11!pi!              | orsun1        |       |
| sun1su1 Cf.         | unsun1su11st2lsc6    |               |       |
| sun1su1sun1 Cf.     | visun1su1sun1        |               |       |
| sun1su2 Cf.         | qlppn1sun1su2        |               |       |
| sun2 Cf.            | qlsun2               |               |       |
| sun2su1 Cf.         | unsun2su1            |               |       |
| sun2su2 Cf.         | unsun2su2            |               |       |

|                        |                                |
|------------------------|--------------------------------|
| sun3 Cf.               | unsun3                         |
| sun4 Cf.               | bvsun4                         |
| sux1 Cf.               | posux1                         |
| <b>prepunctis</b>      |                                |
| pp1 Cf.                | pupp1su2                       |
| pp2 Cf.                | cl1!pipp2                      |
| pp2ppn1 Cf.            | vipp2ppn1                      |
| pp3 Cf.                | vipp3lsn3                      |
| pp4 Cf.                | vipp4lst2                      |
| ppn1 Cf.               | po>ppn1                        |
| ppn1pp1 Cf.            | vippn1pp1                      |
| ppn1pp1ppz1 Cf.        | vippn1pp1ppz11st8              |
| ppn1ppq1 Cf.           | vippn1ppq1                     |
| ppn1ppz1 Cf.           | ql!cl!orppn1ppz1               |
| ppn1ppz1ppq1 Cf.       | vi>1ppn1ppz1ppq1               |
| ppn2 Cf.               | vippn21st3lsa4                 |
| ppn2ppz1 Cf.           | vippn2ppz1sun11sa5             |
| ppn2ppz1ppq1 Cf.       | vippn2ppz1ppq11st2lsa8         |
| ppn3 Cf.               | unppn3sun11sa5                 |
| ppn3ppz1 Cf.           | toppn3ppz1sun1                 |
| ppn4 Cf.               | vippn4                         |
| ppq1 Cf.               | vippq1                         |
| ppz1 Cf.               | puppz1su2                      |
| ppz1ppq1 Cf.           | vi>1ppz1ppq1                   |
| <b>combined glyphs</b> |                                |
| pe!ta Cf.              | pe!talsa2 minus letter         |
| pe!talsa2              | L820 iudicio                   |
| pe!talsc11st2          | L114C revelavit                |
| pe!un Cf.              | pe!unlsc2 minus letter         |
| pe!unlsc2              | L95D meam                      |
| pe!pu                  | L95D eius.                     |
| pe!ta>2 Cf.            | pe!ta>2lsa2 minus letter       |
| pe!ta>2lsa2            | L60E gentes                    |
| pe!or                  | L93G induebam                  |
| qlppn1sun1             | L53C Domino,                   |
| qlppn1sun1su2          | L820 tibi                      |
| qlppn1su1sun2          | L95D frixorio                  |
| qlppn1su2 Cf.          | qlppn1su21sn11 minus letters   |
| qlppn1su21sn11         | L75V mortuus.                  |
| qlppn1sun11sc5         | L54B quoniam                   |
| qlppn1su1sun1          | L107H fecit                    |
| qlsu1sun1              | L43L tua                       |
| qlsu1sux1              | L71D aquam                     |
| qlsu2                  | L67S tua,                      |
| qlsux1                 | L53C quoniam                   |
| qlsun1su2              | L44I mearum                    |
| qlsun1 Cf.             | qlsun1lsa5 minus letter        |
| qlsun1lsa5             | L40Q millia                    |
| qlsun2                 | L122N alleluia.                |
| qlsun2lsa5             | L125U alleluia.                |
| ql!po                  | L820 obedivimus                |
| ql!poppz1 Cf.          | ql!poppz1lsa3 minus letter     |
| ql!poppz1lsa3          | L95D Domine,                   |
| ql!poppn1              | L43L Domine,                   |
| ql!posu1sun1 Cf.       | ql!poppz1su1sun1 minus uncinus |
| ql!poppz1su1sun1       | L43L mandata                   |
| ql!posun1 Cf.          | ql!poppn1sun1 minus uncinus    |
| ql!poppn1sun1          | L61I Iustitiae                 |
| ql!poppn11st2          | L103P Alleluia.                |
| ql!posux1 Cf.          | ql!poppn1sux1 minus uncinus    |
| ql!poppn1sux1          | L61I corda,                    |

|                    |                                        |
|--------------------|----------------------------------------|
| ql!polsm1          | L103P immolatus                        |
| ql!polsa11sa3lsa9  | L56P nostris                           |
| ql!po> Cf.         | ql!po>ppn1 minus uncinus               |
| ql!po>ppn1         | L60A ancillae                          |
| ql!cl              | L43L doceas                            |
| ql!cl!to Cf.       | ql!cl!to1st6 minus letter              |
| ql!cl!to1st6       | L95D me.                               |
| ql!cl!to!or Cf.    | ql!cl!to!orsun1 minus uncinus          |
| ql!cl!to!orsun1    | L19B nobis.                            |
| ql!cl!toppn1       | L72B vitam,                            |
| ql!cl!tosu3 Cf.    | ql!cl!tosu31st6 minus letter           |
| ql!cl!tosu31st6    | L82T hostias,                          |
| ql!cl!or Cf.       | ql!cl!orppn1ppz1 minus uncinus & virga |
| ql!cl!orppn1ppz1   | L109P Populus                          |
| ql!cl!tr> Cf.      | ql!cl!tr>ppz1 minus virga              |
| ql!cl!tr>ppz1      | L54B vias                              |
| ql!clppn1          | L54B a                                 |
| qlppn1             | L820 nomini                            |
| qlppn1ppz1         | L820 gloriam                           |
| qlppn1ppz11st2     | L820 da                                |
| qlppn1ppz1sun1 Cf. | qlppn1ppz1sun11sa5 minus letter        |
| qlppn1ppz1sun11sa5 | L54B mihi                              |
| qlppn1ppz1su1sun1  | L43I dominorum                         |
| qlppn2sun1 Cf.     | qlppn2sun11sa5 minus letter            |
| qlppn2sun11sa5     | L53C Beati                             |
| qlppn2sun2 Cf.     | qlppn2sun21sa51sa5 minus letters       |
| qlppn2sun21sa51sa5 | L122V sic                              |
| qlppz1su2          | L40Q draconem.                         |
| qlppz1su1sun1      | L53C nos                               |
| ql>ppn1            | L95D confrixa                          |
| ql>ppn11sc3        | L90D speraverunt                       |
| popp2              | L820 multitudinem                      |
| popp2su1sux1       | L8U confundentur,                      |
| posux1             | L20P eius                              |
| posux11sa5         | L114V alleluia,                        |
| posun11sa5         | L123A alleluia.                        |
| poMsun1            | L81E meos                              |
| posu1sun1          | L123E alleluia.                        |
| vippn1su1          | L56D Deus                              |
| vippn1sux1         | L53C Memento                           |
| vippn1su1sun1      | L45R tuae,                             |
| vippn1su1sun11st2  | L95D Domine,                           |
| vippn2sun1 Cf.     | vippn2sun11sa4 minus letter            |
| vippn2sun11sa4     | L44I mea                               |
| vippn2 Cf.         | vippn2lsa4 minus letter                |
| vippn21sc4         | L56D quaerunt                          |
| vippn21sa4         | L44I Elevatio                          |
| vippn21st3lsa4     | L103P Alleluia.                        |
| vippn3             | L38I Domino,                           |
| vippn4             | L60E homo                              |
| vipp2ppn1          | L13A gratia                            |
| cl!pe Cf.          | cl!pe1sc2 minus letter                 |
| cl!pe1st2          | L95D sum                               |
| cl!pe1sc2          | L105A Domini                           |
| cl!pe1sn7          | L103H ea.                              |
| vipp2su2           | L43L mihi                              |
| vipp2sun11sa5      | L168L eum                              |
| vipp3 Cf.          | vipp31sn3 minus letter                 |



|                             |                        |                  |                            |       |                                 |
|-----------------------------|------------------------|------------------|----------------------------|-------|---------------------------------|
| vipp3lsn3                   | L152S                  | Sicut            | to!clM                     | L77C  | corde                           |
| vippn1pp1                   | L11Q                   | Israel,          | to!cl>1                    | L77C  | tuum,                           |
| vippn1pp1su1sun2            | L40Q                   | volante          | to!po                      | L84B  | Appropinquaverunt               |
|                             |                        |                  | to!pohd                    | L105A | quaeritis,                      |
| vippn3su4                   | L173D                  | Alleluia.        | to!to Cf. <i>W</i>         |       | to!toppn1sun1 minus 2x uncinus  |
| vipp4 Cf. <i>W</i>          | vipp41st2              | minus letter     | to!tosun1 Cf. <i>W</i>     |       | to!toppn1sun1 minus uncinus     |
| vipp41st2                   | L13A                   | Ave              | to!toppn1sun1              | L43L  | discam                          |
| vippz1ppq1                  | L40Q                   | lapidem          | to!to!pi!cl Cf. <i>W</i>   |       | to!to!pi!clpp2 minus prepunctis |
| vippn1ppq1                  | L33S                   | venti.           | to!to!pi!clpp2             | L60A  | nostrum,                        |
|                             |                        |                  | toS!to                     | L53C  | Confitemini                     |
| vippn1ppz1ppq1              | L101V                  | Israel           | toS!tolst9                 | L90D  | Deus,                           |
| vippn1pp1ppz1 Cf. <i>W</i>  | vippn1pp1ppz11st8      | minus letter     | toS!pe                     | L123E | Exaudi,                         |
| vippn1pp1ppz11st8           | L25M                   | ore              | to!or                      | L67S  | Domine.                         |
|                             |                        |                  | to!orsun1lsa5              | L8U   | Domine.                         |
| vippn2ppz1ppq1 Cf. <i>W</i> | vippn2ppz1ppq11st2lsa8 | minus letters    | to!orlst3                  | L114V | audiatur,                       |
|                             |                        |                  | to!orlsc6                  | L152S | taurorum,                       |
|                             |                        |                  | to!pi!cl                   | L31D  | est,                            |
|                             |                        |                  | to!pi!cl!pi!pi             | L40Q  | millia                          |
|                             |                        |                  | to!pi!cl!pi!orsun1lsa5     | L40Q  | speravit,                       |
| vippn2ppz1ppq11st2lsa8      | L169A                  | confitebor       | oc!vi Cf. <i>W</i>         |       | oc!visun1 minus uncinus         |
| vippn2ppz1sun1lsa5          | L173D                  | Alleluia.        | oc!visun1                  | L95D  | Domine,                         |
| vippn3sun1lsa5              | L173D                  | Alleluia.        | orsu1sun1                  | L94C  | Domine.                         |
| vippq1                      | L168S                  | regna.           | orsu1sun1lsc2              | L94C  | Domine.                         |
| cl1!or Cf. <i>W</i>         | cl1!orlss3             | minus letter     | orsu1sun1lsc3              | L94C  | iniquis                         |
| cl1!orlss3                  | L60E                   | iudicentur       | un!clG                     | L95D  | exaudi                          |
| cl1!orlsc3                  | L60E                   | conspectu        | topp2                      | L95D  | meus                            |
| cl1!pi                      | L95D                   | avertas          | topp2sun1                  | L45R  | tuarum,                         |
| cl1!pi>                     | L53C                   | misericordia     |                            |       |                                 |
| cl1!pi!to                   | L820                   | fecisti          | toppn3ppz1sun1             | L58A  | me.                             |
| cl1!pi!vi                   | L95D                   | Domine,          | to>pp2                     | L90D  | insipientiam                    |
| cl!pi!vi>                   | L67S                   | Virga            | pupp2su1sun1               | L95D  | sunt.                           |
| cl1!pi!cl                   | L640                   | implebis         | pupp2su2                   | L93E  | me.                             |
| cl1!pi!pesu2                | L61I                   | dulciora         | pupp1su2                   | L640  | opportuno.                      |
| cl1!pilsn3lsa6              | L174I                  | me               | pupp1su1sun1               | L58A  | clamavi,                        |
| cl1!pilsn8                  | L53C                   | iudicium,        | puppn1su1sun2              | L40Q  | mille,                          |
| cl1!pilsn9                  | L640                   | Aperis           | puppz1su1sun2              | L40Q  | mille,                          |
| cl1!pilst9                  | L90D                   | Longe            | puppz1su2                  | L168S | tua                             |
| cl1!pipp2                   | L60A                   | Deum             | ds1!ds1                    | L43L  | meos,                           |
| cl1!pi!orsun1               | L90D                   | Israel.          | ds1!ts                     | L67S  | mecum                           |
|                             |                        |                  | ds1!ts1                    | L60E  | tuo.                            |
| cl!po                       | L67S                   | es,              | cl1!orsun1                 | L43L  | considerabo                     |
|                             |                        |                  | cl1!orsun1lsa5             | L8U   | fac                             |
| cl!popp3                    | L122V                  | ascendentem      | cl!or Cf. <i>W</i>         |       | cl!orpp2 minus prepunctis       |
| cl!to                       | L17H                   | eius.            | cl!orpp2                   | L93G  | induebam                        |
| cl!tosu1                    | L17H                   | eius.            | cl1!orpp2                  | L103R | mirabilis                       |
| cl!tosu1lsc6                | L81E                   | me               | ds1!clsun2 Cf. <i>W</i>    |       | ds1!clsun21st5 minus letter     |
| cl!tosu1lsc61st8            | L81E                   | me               | ds1!clsun21st5             | L43L  | doceas                          |
| cl!topp2                    | L64D                   | misericordia     | ds1!clsu1sun1 Cf. <i>W</i> |       | ds1!clsu1sun11st5 minus letter  |
| cl!toppz1su1sun1            | L35T                   | Israel           | ds1!clsu1sun11st5          | L56S  | Salvum                          |
| cl!tolst9                   | L56I                   | dilexit          | ds1pp3                     | L149E | tibi.                           |
| cl!to>                      | L56I                   | aequitatem       | vi>1pp2                    | L67S  | umbrae                          |
| cl!tosun1lsa5               | L164D                  | meam.            | vi>1ppz1ppq1               | L40Q  | custodiant                      |
| cl!to!pi Cf. <i>W</i>       | cl!to!pipp2            | minus prepunctis |                            |       |                                 |
| cl!to!pipp2                 | L33C                   | arcus,           | vi>1ppn1ppz1ppq1           | L106S | Alleluia.                       |
| cl!to!pi!cl                 | L77S                   | Israel           | pfsun1 Cf. <i>W</i>        |       | pfsun11sn5 minus letter         |
|                             |                        |                  | pfsun11sn5                 | L67S  | tua,                            |
| cl!to!pi!clpp2              | L33C                   | eius,            | pfppn1ppq1sun1lsa5         | L123A | Deus                            |
| cl!to!pi!clpp21sn9          | L68Q                   | Sion             |                            |       |                                 |
| cl!to!cl!cl                 | L81R                   | meis,            | un1ppn1ppq1sun2            | L1120 | estis,                          |
| to!cl                       | L95D                   | Domine,          |                            |       |                                 |
| to!cl!cl Cf. <i>W</i>       | to!cl!cl1st9           | minus letter     | un1sun2 Cf. <i>W</i>       |       | un1ppn1ppq1sun2 minus uncinus   |
| to!cl!clsun2 Cf. <i>W</i>   | to!cl!clsun21sa5       | minus letter     |                            |       | & quilisma                      |
| to!cl!clsun21sa5            | L43L                   | tuam             | un1ppn1sun2                | L1120 | Christum                        |
| to!cl!cl1st9                | L8A                    | invocavite.      | un1ppn1sun1su21sa5         | L152I | accelera,                       |
| to!cl!clsu1                 | L33P                   | meam.            | clsun11st5                 | L44I  | vespertinum.                    |
| to!cl!pi                    | L84B                   | iniqui           | clsu31st5                  | L60E  | tuo.                            |
| to!cl!orsun1                | L114V                  | terrae           | tosu1sun1 Cf. <i>W</i>     |       | tosu1sun11sn6 minus letter      |
| to!clsun1                   | L54B                   | quoniam          | tosu1sun1lsc61st7          | L109P | vocavit                         |
| to!clsun1lsa5               | L11Q                   | Ioseph.          |                            |       |                                 |
| to!clsu2 Cf. <i>W</i>       | to!clsu21sn6           | minus letter     |                            |       |                                 |
| to!clsu21sn6                | L8D                    | dabit            |                            |       |                                 |
| to!clsu1sun1 Cf. <i>W</i>   | to!clsu1sun11sm6       | minus letter     |                            |       |                                 |
| to!clsu1sun11sm6            | L24D                   | opera            |                            |       |                                 |
| clsu2sun11st6               | L35T                   | tuam.            |                            |       |                                 |

|                              |                    |               |
|------------------------------|--------------------|---------------|
| tosu1sun1lsn6                | L19B               | venit         |
| tosu2 Cf. <i>١٢</i>          | tosu21st6          | minus letter  |
| tosu21st6                    | L37M               | tu            |
| tgsun1lsa5                   | L103H              | quoniam       |
| cl!cl!cl!sun1lsa5            | L103P              | Alleluia.     |
| cl!cl!cl Cf. <i>١٣</i>       | cl!cl!cl!sn9       | minus letter  |
| cl!cl!cl!sn9                 | L31D               | Domine        |
| cl!cl!pi                     | L54B               | commovear     |
| cl!cl!pi!vi                  | L123A              | Dominus       |
| cl!cl!to                     | L149E              | meam,         |
| cl!cl!po                     | L81R               | insurgentibus |
| cl1!pi!pi!vi                 | L54B               | es            |
| cl1!pi!pisun1lsa5            | L1740              | plaudite      |
| cl1!pi!tosu1                 | L37S               | mei           |
| cl1!pi!tosun1                | L1740              | plaudite      |
| sa1sun1lsa5                  | L11Q               | tuam          |
| trsun2 Cf. <i>١٤</i>         | trsun21sa5         | minus letter  |
| trsun21sa5                   | L13A               | Ave           |
| trsunx1 Cf. <i>١٥</i>        | trsunx11sa5        | minus letter  |
| trsunx11st8                  | L20P               | eius,         |
| trsunx11sa5                  | L136A              | aeternam      |
| trsu2 Cf. <i>١٦</i>          | trsu21st31sm8      | minus letters |
| trsu21st31sm8                | L136A              | vobis         |
| trsun1su2 Cf. <i>١٧</i>      | trsun1su21sa3      | minus letter  |
| trsun1su21sa3                | L149C              | Domini        |
| trsun1lsa31sa5               | L18L               | terra         |
| trsun1lsa5 Cf. <i>١٨</i>     | trsun1lsa31sa5     | minus letter  |
| bvsun4                       | L8U                | me.           |
| oc!cl                        | L31D               | Domine.       |
| oc!clM                       | L77S               | peccatorum.   |
| oc!pe!pu                     | L53C               | tuo.          |
| tg!cl                        | L31D               | est,          |
| tg!cl>1                      | L33C               | eius,         |
| tg!cl!sn9                    | L68Q               | Sion          |
| tg!or                        | L77C               | tibi          |
| unppn1sun2                   | L40Q               | Cadent        |
| unppn1sun21sa5               | L123E              | quaesivi      |
| unppn1sux1                   | L72B               | eius          |
| unppn1sux11sa5               | L24D               | exaltavit     |
| unppn1sun1su2                | L58A               | Domine,       |
| unppn1ppz1sun1 Cf. <i>١٩</i> | unppn1ppz1sun11sa5 | minus letter  |
| unppn1ppz1sun11sa5           | L80S               | habitat       |
| unppn3sun11sa5               | L24D               | fecit         |
| ta>ppn1                      | L95D               | et            |
| ta>pp2                       | L33C               | ut            |
| pt1ppn1                      | L99P               | tuo.          |
| tssun1lsa5                   | L24D               | dextera       |
| cl>1pp2                      | L114C              | alleluia,     |
| tasu2                        | L24T               | tuam.         |

|                            |                    |                    |                                                            |
|----------------------------|--------------------|--------------------|------------------------------------------------------------|
| <b>significant letters</b> |                    |                    |                                                            |
| <i>٢٠</i>                  | lsa Cf. <i>٢٠</i>  | vi>lsa6            | augete                                                     |
| <i>٢١</i>                  | lsc Cf. <i>٢١</i>  | pe!unlsc2          | celeriter                                                  |
| <i>٢٢</i>                  | lseq               | L78H hic           | equaliter                                                  |
| <i>٢٣</i>                  | lseq-              | L78H quotiescumque | equaliter                                                  |
| <i>٢٤</i>                  | lsequ              | L56D confundantur  | equaliter                                                  |
| <i>٢٥</i>                  | lsf Cf. <i>٢٥</i>  | polsf21st3         | fastigium                                                  |
| <i>٢٦</i>                  | lsh                | L44D a             | humiliter                                                  |
| <i>٢٧</i>                  | lshn Cf. <i>٢٧</i> | cl1shn8            | humiliter nectum                                           |
| <i>٢٨</i>                  | lshp Cf. <i>٢٨</i> | tr1st31shp7        | humiliter parum                                            |
| <i>٢٩</i>                  | lsl Cf. <i>٢٩</i>  | pels12             | levare                                                     |
| <i>٣٠</i>                  | lsn Cf. <i>٣٠</i>  | cl1sn9             | non (tenere), negare,<br>nectum, naturaliter<br>non levare |
| <i>٣١</i>                  | lsnl Cf. <i>٣١</i> | cl1sn12            | non tenere                                                 |
| <i>٣٢</i>                  | lsnt Cf. <i>٣٢</i> | pulsnt3            | mediocriter                                                |
| <i>٣٣</i>                  | lsm                | L67S Virga         | mediocriter                                                |
| <i>٣٤</i>                  | lsmd               | L820 da            | mediocriter                                                |
| <i>٣٥</i>                  | lss                | L95D tempus        | sursum                                                     |
| <i>٣٦</i>                  | lssimp             | L8U Domine,        | simpliciter                                                |
| <i>٣٧</i>                  | lssimpl            | L81R insurgentibus | simpliciter                                                |
| <i>٣٨</i>                  | lssp               | L54Ae Domine,      | sursum parum                                               |
| <i>٣٩</i>                  | lsst Cf. <i>٣٩</i> | pelsst11sm4        | sursum tenere                                              |
| <i>٤٠</i>                  | lst Cf. <i>٤٠</i>  | clsun11st5         | tenere                                                     |
| <i>٤١</i>                  | lsth Cf. <i>٤١</i> | tolsth8            | tenere humiliter                                           |
| <b>tironian notes</b>      |                    |                    |                                                            |
| <i>٤٢</i>                  | lti                | L78H pro           | iusum                                                      |
| <i>٤٣</i>                  | ltdo               | L140 misericordiam | deorsum                                                    |
| <i>٤٤</i>                  | ltdr               | L132E descendit    | devertit                                                   |
| <i>٤٥</i>                  | ltdx               | L122V intuerentus  | devexum                                                    |
| <i>٤٦</i>                  | ltps               | L128S veniat,      | prode sub eam (trade subtus)                               |
| <i>٤٧</i>                  | ltqm               | L118E sum          | quam mox                                                   |
| <i>٤٨</i>                  | ltsb               | L11Q et            | sub                                                        |
| <i>٤٩</i>                  | ltse               | L144C corde        | seorsum                                                    |
| <i>٥٠</i>                  | ltsj               | L164D meam         | subjice                                                    |
| <i>٥١</i>                  | ltsl               | L117R delectati    | saltim                                                     |
| <i>٥٢</i>                  | ltsn               | L17H gloriam       | sonare                                                     |
| <i>٥٣</i>                  | ltsp               | L10I Ierusalem     | supra                                                      |
| <i>٥٤</i>                  | ltsr               | L14P et            | sursum                                                     |
| <i>٥٥</i>                  | ltst               | L25L omnes         | saltate (salte)                                            |
| <i>٥٦</i>                  | ltus               | L17H eius.         | ut supra                                                   |