Universal Multiple-Octet Coded Character Set
International Organization for Standardization
Organisation Internationale de Normalisation
Международная организация по стандартизации

Doc Type:	**Working Group Document**
Title:	**Tangut glyph corrections**
Source:	**Andrew West, Viacheslav Zaytsev, Sun Bojun, Michael Everson**
Status:	**Individual Contribution**
Action:	**For consideration by JTC1/SC2/WG2 and UTC**
Date:	**2014-10-01**
Revision History:	R0 (2014-08-12): initial version
	R1 (2014-09-21): expanded
	R2 (2014-10-01): incorporates changes suggested in N4640

1. Introduction

We have carried out a review of the set of Tangut characters included in ISO/IEC 10646:2014 PDAM2 (see N4585), focussing particularly on whether the glyph forms in the font used for the code chart are correct, and in accord with the glyph shape in original Tangut texts. We have manually checked the glyph shape of all characters that have different stroke counts in Li Fanwen 2008 compared with Han Xiaomang 2004 and 2013, as this may be indicative of an incorrect glyph used in the source font.

We have identified sixty-one characters which have a glyph shape that is significantly different from the glyph normally found in primary Tangut sources, and which need to be corrected before encoding. The proposed glyph corrections are of three types:

- Radical or component glyph is incorrect in all instances, and all characters with this radical or component need to be modified (see Table 1 below);
- Inconsistent use of glyph forms for the same component, and characters need to be harmonized to use the same component glyph (see Table 2 below);
- Corrections to glyphs for individual characters (see Table 3 below).

In most cases the required glyph change means that the affected character also needs to be reordered. In addition to reordering 47 of the 61 characters with glyph changes, sixteen additional characters need to be reordered because they were misidentified with the wrong radical/component in N4522. Therefore a total of 63 characters need to be reordered.

We have also identified one additional character that needs to be added to the repertoire of 6,125 Tangut ideographs proposed in N4522 (see 2.33).

Table 4 provides the corrected glyph and radical/stroke data and any required reordering for each character. In total changes are required for 78 characters:

- 47 characters need a glyph change and consequent reordering;
- 14 characters need a glyph change but no reordering;
- 16 characters need reordering but no glyph change;
- 1 character needs to be added to the repertoire.

Section 2 of this document provides glyph images for each affected character, taken from a variety of printed, manuscript and epigraphic texts, as evidence for the correct glyph form of the character.

Section 3 retrospectively provides evidence for glyph corrections that had already been applied in N4522 (i.e. before PDAM2 was issued). This is provided for information only, and no further action is required.

Section 4 discusses a number of cases where the original Tangut sources are inconsistent, and it is difficult to determine the correct glyph form. This is provided for possible discussion by experts, but no changes are recommended at the current time.

NB In all cases code points prefixed by U+ in this document refer to code points of characters in the PDAM2 ballot (see N4585 for a list of the Tangut characters in the PDAM ballot). These code points are off by one compared with N4522.

Table 1 : Radical/Component Glyph Corrections

N4522 Radical	L2008 Radical/ Component Glyph	Corrected Radical/ Component Glyph	Characters Affected	Old Glyph	New Glyph	Details
R171	牟 (5 strokes)	牟 (4 strokes)	U+173D0 (L3340)	燉	燉	2.1
			U+173E3 (L2220)	爗	爗	2.2
			U+1743B (L4921)	鞿	鞿	2.3
			U+1807E (L5933)	牞	牞	2.4
R255	牟 (6 strokes)	牟 (5 strokes)	U+174D6 (L4968)	鞿	鞿	2.5
			U+1791C (L3784)	牪	牪	2.6
			U+182F3 (L5870)	牥	牥	2.7
			U+182F4 (L5937)	牦	牦	2.8
			U+182F5 (L5909)	牮	牮	2.9
			U+182F6 (L5934)	牭	牭	2.10
			U+182F7 (L5938)	牳	牳	2.11
			U+182F8 (L5975)	牷	牷	2.12
			U+182F9 (L5832)	牸	牸	2.13
			U+186C2 (L4011)	韭	韭	2.14
R306	㣇 (7 strokes)	㣇 (6 strokes)	U+17E93 (L2352)	㣇	㣇	2.15
			U+18522 (L1763)	㣇	㣇	2.16

Table 2 : Radical/Component Glyph Harmonization
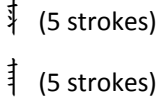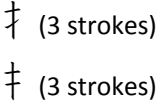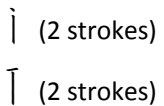
N4522 Radical	Glyph Forms for the Same Component	Preferred Glyph	Characters Affected	Old Glyph	New Glyph	Details
N/A	⺉ (5 strokes) ⺉ (5 strokes)	⺉	U+177BE (L4340)	薮	薮	2.17
			U+17A43 (L3302)	㩃	㩃	
			U+17A8C (L2647)	㩃	㩃	
			U+17A8D (L3674)	㩃	㩃	
			U+17AE5 (L2245)	㫥	㫥	
N/A	⺉ (3 strokes) ⺉ (3 strokes)	⺉	U+17384 (L4459)	拨	拨	2.18
			U+17497 (L4836)	㒗	㒗	
			U+179E7 (L3708)	㬧	㬧	
			U+180B8 (L5207)	㴸	㴸	
			U+182D3 (L5201)	㫁	㫁	
			U+183C5 (L5304)	㫂	㫂	
			U+1879C (L1583)	㫅	㫅	
N/A	⼁ (2 strokes) ⼁ (2 strokes)	⼁	U+178E0 (L2746)	㫠	㫠	2.19
			U+179B5 (L3580)	㫡	㫡	
			U+17AD6 (L2883)	㫢	㫢	
			U+17EC4 (L2445)	㫣	㫣	
			U+17F15 (L2545)	㫤	㫤	

Table 3 : Individual character corrections

Character	Note	Old Glyph	New Glyph	Details
U+18221 (L1266)	Radical 220 彡 (6 strokes) changed to 彡 (7 strokes).	𘈡	𘈡	2.20
U+18562 (L5542)	Move to a new radical 𡧃 (8 strokes).	𘕢	𘕢	2.21
U+18702 (L0470)	Move to radical R453 𦥑 (9 strokes), and delete R420 𦥑 (8 strokes).	𘜂	𘜂	2.22
U+17FF4 (L3589)		𗿴	𗿴	2.23
U+173C3 (L2463)	Two dots belong to the left side component, which is a new radical (5 strokes).	𗏃	𗏃	2.24
U+18024 (L3933)	Right component changed from 卜 (3 strokes) to 卜 (3 strokes).	𘀤	𘀤	2.25
U+1835F (L5533)	Right component changed from 月 (4 strokes) to 月 (4 strokes).	𘍟	𘍟	2.26
U+17F18 (L3753)	Right component changed from 彡 (6 strokes) to 彡 (7 strokes).	𗼘	𗼘	2.27
U+1791F (L3804)	Right component changed from 彳 (6 strokes) to 彳 (5 strokes).	𗤟	𗤟	2.28
U+179C6 (L2754)	Middle component changed from 帚 (6 strokes) to 帚 (6 strokes).	𗧆	𗧆	2.29
U+17A4E (L3597)	Left or bottom left component changed from 彡 (4 strokes) to 彡 (4 strokes).	𗩎	𗩎	2.30
U+177AD (L4251)		𗞭	𗞭	
U+17514 (L4904)		𗔔	𗔔	
U+17BCF (L5836)	Component 羊 (4 strokes) changed to 羊 (3 strokes).	𗯏	𗯏	2.31
U+17BD0 (L5950)		𗯐	𗯐	
U+17BD8 (L5839)		𗯘	𗯘	
U+17DB7 (L4498)		𗶷	𗶷	
U+185E7 (L1851)		𘗧	𘗧	

Character	Note	Old Glyph	New Glyph	Details
U+1725D (L0896)	Component 彡 (4 strokes) changed to 彡 (2 strokes).	殰	殰	2.31
U+1759F (L1536)		潫	潫	
U+17763 (L4393)		蘺	蘺	
U+177A4 (L4402)		薿	薿	
U+17BD5 (L5837)		糀	糀	
U+17BD2 (L5948)		糘	糘	
U+17BD3 (L5951)		籹	籹	
U+17BDB (L5956)		糤	糤	
U+17200 (L1177)	Two dots instead of one dot	龑	龑	2.32
U+17A55 (L2093)	Dot at top of vertical stroke seems to be a mistake	瀩	瀩	2.19

In N4522 there are twenty-three characters with the 彡 component, but this component is inconsistently treated as either 2 strokes or three strokes. Seven characters (U+1764A [L1010], U+17C62 [L1452], U+178C1 [L2797], U+17404 [L3392], U+17975 [L3654], U+17DC0 [L4497], U+17805 [L4585]) are ordered as 彡 = 2 strokes, but the following sixteen characters are ordered as 彡 = 3 strokes, and the first fourteen of them are incorrrectly intermixed with the 彡 radical:

- U+175D3 (L5955) 拜
- U+175D4 (L5981) 拹
- U+175D5 (L5835) 耓
- U+175D6 (L5846) 耛
- U+175D8 (L5982) 拶
- U+175D9 (L5913) 耔
- U+175DA (L5911) 耖
- U+175DB (L5958) 稫
- U+175DC (L5992) 拼
- U+175DD (L5838) 耝
- U+175E0 (L5918) 耚
- U+175E3 (L5896) 耟
- U+175E6 (L5985) 耱
- U+175E7 (L5952) 耫
- U+17896 (L3778) 儞
- U+17ACE (L3351) 緻

For consistency these sixteen characters should be reordered to reflect their correct stroke count, and fourteen of them moved to a new 㹺 radical.

The following reordering of the 505 radicals used in N4522 are required in response to the changes given in Tables 1-3:

- R001–R014 ⇒ R001–R014
- Insert R015 㹺 (new radical)
- R015–R021 ⇒ R016–R022
- R022–R026 ⇒ R024–R028
- R027 㹷 ⇒ R023 㹷
- R028–R108 ⇒ R029–R109
- R109–R157 ⇒ R111–R159
- Insert R160 㲋 (new radical)
- R158–R170 ⇒ R161–R173
- R171 㹽 ⇒ R110 㹽
- R172–R195 ⇒ R174–R197
- R196–R219 ⇒ R199–R222
- R220 㲄 ⇒ R305 㲄
- R221–R254 ⇒ R223–R256
- R255 㹼 ⇒ R198 㹼
- R256–R289 ⇒ R257–R290
- R290–R302 ⇒ R292–R304
- R303–R305 ⇒ R306–R308
- R306 㲅 ⇒ R291 㲅
- R307–R399 ⇒ R309–R401
- Insert R402 㺀 (new radical)
- R400–R419 ⇒ R403–R422
- Delete R420 㺁
- R421–R505 ⇒ R423–R507

NB In the above list and elsewhere in this document, the radical number (Rxxx) refers to the radical number given in the kRSTUnicode field of TangutSrc.txt.

Table 4 : Character Corrections

Character	Old Glyph	New Glyph	New Radical, Stroke Count and Sort Key			Reordering
(H2-0284)		�	R008	7	BBCCCQC	after U+17131
U+17200 (L1177)	龓	龓	R014	13	EACCQDDDCBFAA	after U+1720E

Character	Old Glyph	New Glyph	New Radical, Stroke Count and Sort Key			Reordering
U+1725D (L0896)	𗉝	𗉝	R017	9	JCABBBBHB	after U+17251
U+17384 (L4459)	㧜	㧜	R023	9	ABBDCGCCQ	after U+1734F
U+173C3 (L2463)	㵃	㵃	R160	10	CCQDDBCCCQ	after U+17FFD
U+173D0 (L3340)	㵐	㵐	R036	10	CCQGBAACCQ	after U+173C6
U+173E3 (L2220)	㵣	㵣	R036	12	CCQGBAAAEABE	after U+173E0
U+1743B (L4921)	㶻	㶻	R041	9	DCAGBAAJC	after U+1742B
U+17497 (L4836)	㷗	㷗	R041	13	DCABAABDCGCCQ	after U+17494
U+174D6 (L4968)	㷖	㷖	R041	13	DCAGBAAACCQCQ	after U+174B4
U+17514 (L4904)	㷔	㷔	R041	17	DCACCCQCCCQDCAMCD	(unchanged)
U+1759F (L1536)	㷟	㷟	R045	10	EANHBCCQCQ	after U+17593
U+175D3 (L5955)	㸓	㸓	R015	6	HBGAAB	after U+17227
U+175D4 (L5981)	㸔	㸔	R015	7	HBDCJCC	after U+17227
U+175D5 (L5835)	㸕	㸕	R015	8	HBABFAAC	after U+17227
U+175D6 (L5846)	㸖	㸖	R015	8	HBAEABEA	after U+17227
U+175D8 (L5982)	㸘	㸘	R015	8	HBDCGCCQ	after U+17227
U+175D9 (L5913)	㸙	㸙	R015	8	HBGAABMC	after U+17227
U+175DA (L5911)	㸚	㸚	R015	9	HBCCQCQMC	after U+17227
U+175DB (L5958)	㸛	㸛	R015	9	HBKDBOEAA	after U+17227
U+175DC (L5992)	㸜	㸜	R015	9	HBOGDCBBE	after U+17227

Character	Old Glyph	New Glyph	New Radical, Stroke Count and Sort Key			Reordering
U+175DD (L5838)	靸	靸	R015	10	HBADACCQMC	after U+17227
U+175E0 (L5918)	靸	靸	R015	10	HBDABEAMCD	after U+17227
U+175E3 (L5896)	靸	靸	R015	12	HBCCCQDDAABE	after U+17227
U+175E6 (L5985)	靸	靸	R015	14	HBCCQCQDCABEAA	after U+17227
U+175E7 (L5952)	靸	靸	R015	15	HBGABBAABEEACCQ	after U+17227
U+17763 (L4393)	蘒	蘒	R060	13	ABBBHBOGDCBBE	after U+17706
U+177A4 (L4402)	蘒	蘒	R060	15	ABBBHBCCCQEAAAB	after U+17770
U+177AD (L4251)	蘒	蘒	R060	18	ABBBCCCQCCCQDCAMCD	(unchanged)
U+177BE (L4340)	蘒	蘒	R060	19	ABBBCCCQABAAADACCCQ	(unchanged)
U+17896 (L3778)	㣔	㣔	R074	11	CCBBCBAAAHB	after U+17891
U+178E0 (L2746)	狖	狖	R076	9	CCCQABBMC	after U+178C8
U+1791C (L3784)	狖	狖	R076	9	CCCQGBAAA	after U+178EA
U+1791F (L3804)	狖	狖	R076	9	CCCQGBCCQ	after U+178EB
U+179B5 (L3580)	獮	獮	R076	12	CCCQABDCGBFA	after U+17991
U+179C6 (L2754)	獮	獮	R076	12	CCCQEABABEMC	after U+179C8
U+179E7 (L3708)	獮	獮	R076	13	CCCQAABDCGCCQ	after U+179DC
U+17A43 (L3302)	獮	獮	R076	14	CCCQABAAACCQCQ	after U+17A37
U+17A4E (L3597)	獮	獮	R079	14	CCCQCCCQDCAMCD	after U+17B0E
U+17A55 (L2093)	獮	獮	R076	13	CCCQBAAAABEMC	after U+179EA

Character	Old Glyph	New Glyph	New Radical, Stroke Count and Sort Key			Reordering
U+17A8C (L2647)	縗	縗	R076	15	CCCQABAAADACCCQ	after U+17A84
U+17A8D (L3674)	縗	縗	R076	15	CCCQABAAADCGCCQ	
U+17ACE (L3351)	縗	縗	R076	15	CCCQGABBHBCCQCQ	after U+17AAB
U+17AD6 (L2883)	縗	縗	R076	17	CCCQABBABBBEABEAA	after U+17AD0
U+17AE5 (L2245)	縗	縗	R076	18	CCCQABAAAABFAACCCQ	(unchanged)
U+17BCF (L5836)	瓶	瓶	R048	7	GCBABFA	after U+175D1
U+17BD0 (L5950)	籵	籵	R048	7	GCBGCCQ	after U+175D2
U+17BD2 (L5948)	精	精	R015	7	HBEAABE	after U+17227
U+17BD3 (L5951)	籵	籵	R015	7	HBEACCQ	after U+17227
U+17BD5 (L5837)	糕	糕	R015	8	HBAEABFA	after U+17227
U+17BD8 (L5839)	糯	糯	R048	11	GCBAABBBBFA	after U+175DC
U+17BDB (L5956)	糱	糱	R015	11	HBCCCQEAAAB	after U+17227
U+17DB7 (L4498)	薮	薮	R131	12	ABBBBGCBCCCQ	(unchanged)
U+17E93 (L2352)	復	復	R153	11	CCBBBGCQGCQ	(unchanged)
U+17EC4 (L2445)	絪	絪	R154	12	CCBEACCCQABB	after U+17EC2
U+17F15 (L2545)	黻	黻	R156	11	CCCQBCCCQAE	(unchanged)
U+17F18 (L3753)	黻	黻	R156	12	CCCQBDCACCCQ	after U+17F1D
U+17FF4 (L3589)	黻	黻	R159	16	CCQCQBDCAKDBBBMC	after U+17FF1
U+18024 (L3933)	菲	菲	R165	8	DABEABAA	(unchanged)

Character	Old Glyph	New Glyph	New Radical, Stroke Count and Sort Key			Reordering
U+1807E (L5933)	㐾	㐾	R110	6	GBAAJC	after U+17CBD
U+180B8 (L5207)	㵞	㵞	R178	12	DCCCQAABABFC	(unchanged)
U+18221 (L1266)	㵞	㵞	R305	16	ACCCCQBEAAKDBBBB	after U+18508
U+182D3 (L5201)	㵞	㵞	R252	13	DCABEAAABABFC	(unchanged)
U+182F3 (L5870)	㵞	㵞	R198	9	GBAAACCCQ	after U+18194
U+182F4 (L5937)	㵞	㵞	R198	10	GBAAACCQCQ	
U+182F5 (L5909)	㵞	㵞	R198	11	GBAAACCCQMC	
U+182F6 (L5934)	㵞	㵞	R198	11	GBAAAEABEAA	
U+182F7 (L5938)	㵞	㵞	R198	11	GBAAAKDDCCQ	
U+182F8 (L5975)	㵞	㵞	R198	13	GBAAADCACCCQB	
U+182F9 (L5832)	㵞	㵞	R198	14	GBAAAAABBBDCBE	
U+1835F (L5533)	㵞	㵞	R265	10	DCBECCBEAA	(unchanged)
U+183C5 (L5304)	㵞	㵞	R271	11	DCGCCQAABBB	after U+183BF
U+18522 (L1763)	㵞	㵞	R291	13	GCQGCQBDCGCCQ	after U+184B8
U+18562 (L5542)	㵞	㵞	R402	17	DCABCCQBEAAKDBBBB	after U+186D5
U+185E7 (L1851)	㵞	㵞	R350	10	EAABBAEGCB	(unchanged)
U+186C2 (L4011)	㵞	㵞	R393	13	DABAAABEGBAAA	(unchanged)
U+18702 (L0470)	㵞	㵞	R455	16	EAAKDBBBABCCCCQB	after U+18777
U+1879C (L1583)	㵞	㵞	R470	19	ABEAAABBBAAABDCGCCQ	(unchanged)

2. *Evidence for Correct Glyphs*

This section provides images of each character as it appears in the following manuscript, printed or epigraphic texts:

- *Sea of Characters* (*Wenhai* 文海) [printed edition, comprising vol.1 (level tone characters) and vol.3 (miscellaneous characters)]
- *Precious Rhymes of the Sea of Characters* (*Wenhai Baoyun* 文海寶韻) [manuscript edition]
- *Homophones* (*Tongyin* 同音):
  - A: Tang. 18/1 [Inv. no. 207] (甲種本)
  - B1: Tang. 18/2 [Inv. no. 208] (乙種本)
  - B2: Tang. 18/3 [Inv. no. 209] (乙種本)
  - B3: Tang. 18/7 [Inv. no. 4775] (乙種本)
  - C: Tang. 18/4 [Inv. no. 2619] (丙種本)
  - D: Tang. 18/15 [Inv. no. 8365] (丁種本)
- *Dissected Rhymes of the Five Sounds* (*Wuyin Qieyun* 五音切韻) [Edition D]
- *Pearl in the Palm* (*Fan-Han Heshi Zhangzhongzhu* 番漢合時掌中珠)
- *Analects* (*Lunyu* 論語)
- *Miscellaneous Characters* (*Zazi* 雜字)
- *Great Ode* (*Dashi* 大詩)
- *Ode on Reason [proverbs]* (*Daolishi* 道理詩)
- *Ode on Monthly Pleasures* (*Yueyueleshi* 月月樂詩)
- *Newly Collected Grains of Gold* (*Xinji Suijin Zhizhangwen* 新集碎金置掌文)
- *Dharani-sutra of the Victorious Buddha-Crown* (*Foding Zunsheng Tuoluoni* 佛頂尊勝陀羅尼經) engraved on the east wall of the Cloud Platform at Juyongguan
- *Dharani-Sutra of the Tathagata Heart* (*Rulaixin Tuoluoni Jing* 如來心陀羅尼經) engraved on the west wall of the Cloud Platform at Juyongguan

2.1   L3340

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
嫩	嫩	嫩	嫩	嫩	嫩	嫩

Tongyin A 34A17	*Tongyin* B2 34B21	*Wenhai* 1-30.211	*Wenhai* 3-5.211

2.2   L2220

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph

Tongyin A 28A77	Tongyin B1 28A16	Tongyin B2 28A16	Tongyin C 28A16	Tongyin D 28A16

Wenhai 1-12.152

2.3 L4921

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
荔	荔	荔	荔	荔	荔	荔

Tongyin A 31B36	*Tongyin* B2 32A65	*Tongyin* D 32A65

Wenhai 1-20.271	*Zhangzhongzhu* 10a	*Zazi* 14A8	*Suijin* A 49B

2.4 L5933

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
杨	杨	杨	粉	粉	粉	杨
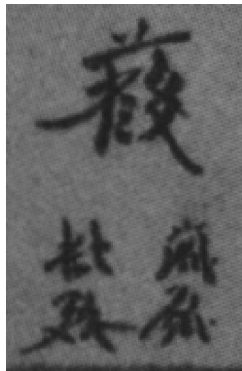
Tongyin A 31B37	Tongyin B2 32A65	Tongyin D 32A65	Zazi 10A5

Wenhai 1-20.262	Wenhai 1-20.261	Wenhai Baoyun 1.09b	Wuyin Qieyun D 23

2.5   L4968

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	馓	馓	馓	馓	馓	馓

Tongyin A 24B15	Tongyin B1 23A67	Tongyin B2 23A67	Tongyin D 23A67

Wenhai Baoyun 2.8a	Zazi 16B7

2.6   L3784

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
𗫴	𗫴	𗫴	𗫴	𗫴	𗫴	𗫴
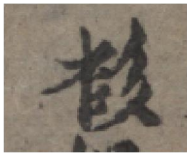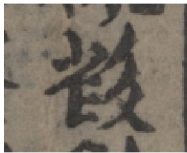
Tongyin A 7A23	*Tongyin* B1 10A23	*Tongyin* B2 10A23	*Tongyin* D 10A23	*Wenhai* 1-57.162

Wenhai 1-42.222	*Zhangzhongzhu* 31b	*Suijin* A 3B	*Lunyu* 6-2A6

2.7   L5870

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
骸	骸	骸	骸	骸	骸	骸
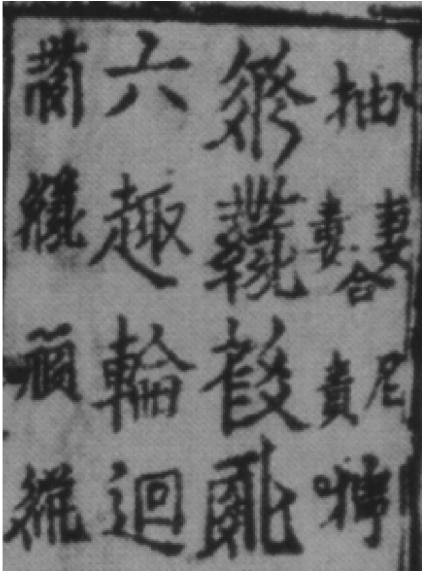
Tongyin A 33A78	Tongyin B2 34A11	Zhangzhongzhu 21a	Wenhai 1-42.222

Wenhai 1-56.162	Wenhai 1-57.162	Wenhai 1-57.162	Dashi 2b	Lunyu 6-4A5

2.8　　L5937

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
殺	殺	殺	殺	殺	殺	殺

Tongyin A 34A37	Tongyin B2 42A24	Wenhai 1-32.242	Yueyueleshi 1A

Zhangzhongzhu 37a

2.9   L5909

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
毹	毹	毹	毹	毹	毹	毹

Tongyin A 32B42	Tongyin B2 33A54	Tongyin D 33A54	Wenhai 1-39.113

Wenhai 1-10.242	Wenhai 1-65.233

2.10   L5934
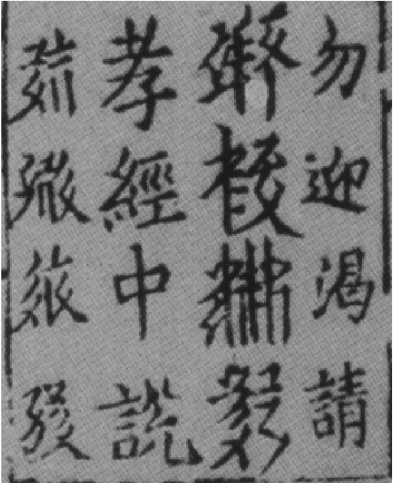
Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𗆀	𗆀	𗆀	𗆀	𗆀	𗆀

Tongyin A 23B36	Tongyin B1 24B23	Tongyin B2 24B23	Tongyin D 24B23

2.11　L5938
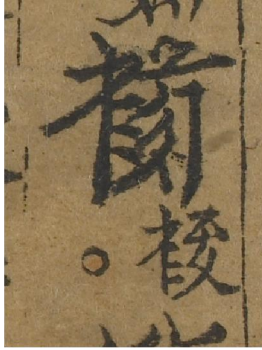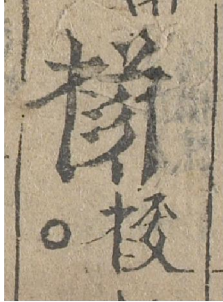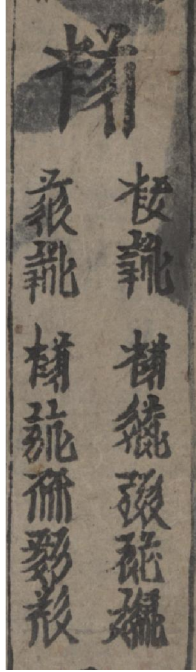
Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
㣺	㣺	㣺	㣺	㣺	㣺	㣺

Tongyin A 23B37	Tongyin B1 24B16	Tongyin B2 24B16	Tongyin D 24B16

Zhangzhongzhu 31a	Lunyu 6-9A5

2.12   L5975

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𗊱	𗊱	𗊱	𗊱	𗊱	𗊱

Tongyin A 17B13	Tongyin B2 18A46	Tongyin D 18A46	Wenhai 1-71.111

2.13   L5832

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
�	㪿	㪿	㪿	㪿	㪿	㪿

Tongyin A 33B11	*Tongyin* B2 34A12	*Zhangzhongzhu* 9a
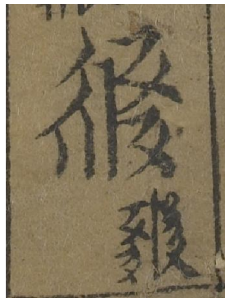
2.14 L4011

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	羠	羠	羠	羠	羠	羠

Tongyin A 6A26	Tongyin B3 7A11	Tongyin D 7A11

2.15   L2352

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𢓨	𢓨	𢓨	𢓨	𢓨	𢓨

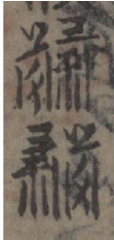| *Tongyin* A 33A68	*Tongyin* B2 35B18

2.16   L1763

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𗎩	𗎩	𗎩	𗎩	𗎩	𗎩

Tongyin A 52B71	*Tongyin* B1 53A41	*Wenhai* 1-39.173	*Wenhai* 1-49.251	*Wenhai* 1-54.242
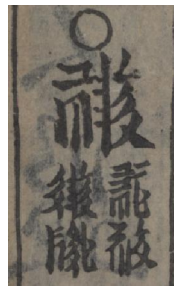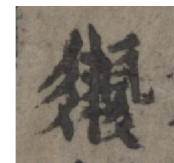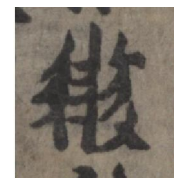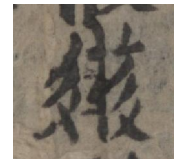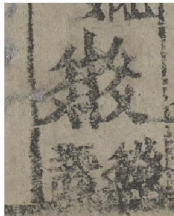
Zhangzhongzhu 11a	*Dashi* 6b	*Suijin A* 63A
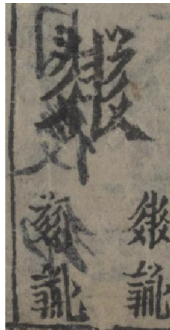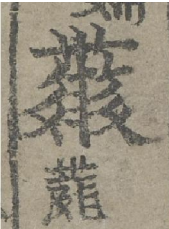
2.17   L2245, L2647, L3302, L3674, L4340

L2008	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L0662	𧤃	𧤃	𧤃	𧤃	𧤃	𧤃	
L2245		𗂧	𗂧	𗂧	𗂧	𗂧	𗂧
L2647	𗂧	𗂧	𗂧	𗂧	𗂧	𗂧	𗂧
L3302		𗂧	𗂧		𗂧	𗂧	𗂧
L3674	𗂧	𗂧	𗂧	𗂧	𗂧	𗂧	𗂧
L4340		𗂧	𗂧	𗂧	𗂧	𗂧	𗂧

L0662, L2245, L2647, L3302, L3674 and L4340 all share the same middle component, but the glyph shape for this component in Han Xiaomang 2004, Kychanov 2006, and Li Fanwen 2008 is slightly different for L0662 compared with the other five characters. That the middle component of L0662 is the same as for the other five characters is evident from the structural composition for L0662 given in *Wenhai* (1-41.172), where the character is described as being constructed from "bottom of 'tooth', right of 'rank' [L2647]" 𗫳𗦻𗂧𗰦. Examination of the original Tangut sources does not show any obvious difference in glyph shape of the middle component for L0662 compared with the other five characters. Therefore, the glyphs for L0662, L2245, L2647, L3302, L3674 and L4340 should be modfied to use the same middle component glyph.

From the examples shown below we believe that the glyph shape for the middle component of L0662 is the most common form for all six characters, and we therefore recommend changing the glyphs for L2245, L2647, L3302, L3674 and L4340 to match L0662.

	Tongyin A	*Tongyin* B1	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other
L0662 𥸹	23B22 	29A58 	29A58 	29A58 	1-41.172 	
L2245 𥾿	43A54 		43B73 		1-57.162 	
L2647 𥾟	23B18 	24A72 	24A72 	24A72 	1-42.222 1-57.162 	*Dashi* 5a
L3302 𥾸	23B27 	24A78 	24A78 	24A78 	1-92.151 	*Zazi* 9B7

	Tongyin A	*Tongyin* B1	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other
L3674 絲	23B26	24A77	24A77	24A77	1-92.142	
L4340 薇	22A65	23A44	23A44	23A44		*Zazi* 6B6
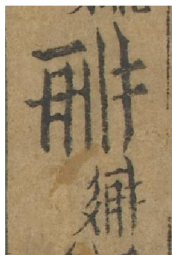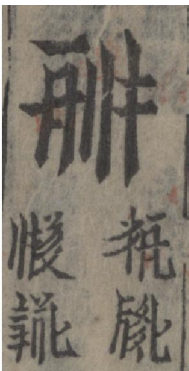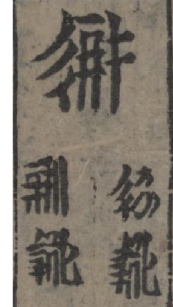
L2008	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L0528		𗤊					
L0861							
L1583							
L2853							
L3505							
L3511							
L3708							
L4376							
L4459							
L4836							
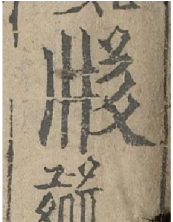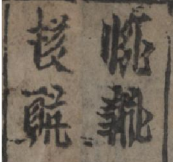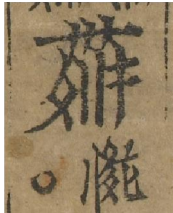
L4999						
L5201						
L5207						
L5304						
L5734						
L5769						
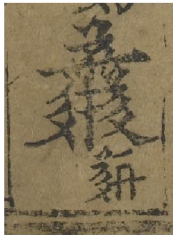
The characters in the above table have a mixture of 扌 and 才 glyph forms as left hand or middle components, but the original Tangut sources do not indicate any such distinction. The character constructions in *Sea of Characters* also indicate that no distinction should be made:
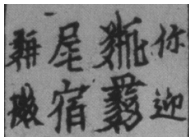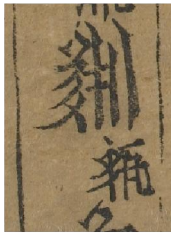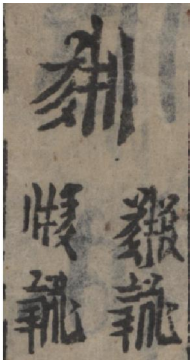
- L3505 𗇌 : "left of 'not', all of 'to break' [L4459]" 𗇌𗇌 𗇌𗇌.
- L4836 𗇌 : "outside of 'joint', right of 'to chop' [L3505]" 𗇌𗇌 𗇌𗇌.

Therefore, we suggesting harmonizing the glyphs of the characters in the above table so that the seven characters with a 才 component are modified to use 扌 instead.

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L0528 刪	33A35	33B44		33B44	3-4.242	
L0861 刪	34B14	35A13			1-89.141	
L1583 䜤	18B42	19A62		19A62		
L2853 姗	29A56	30A22	30A22	30A22	1-60.152	

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L3505 㬳	22B28	23B13		23B13	1-90.112	
L3511 㕦	28B45	29A48	29A48	29A48		
L3708 㪅	5B14			6A74	1-27.262	*Juyongguan* West 6 *Lunyu* 6-9A8
L4376 䓶	15A45	16A27		16A27	1-69.171	

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L4459 搂	5A56 			6A48 		*Juyongguan* East 27
L4836 蕨	42B65 	43B21 			1-69.252 	
L4999 蘮	21B21 	22A68 		22A68 	1-67.271 	
L5201 蕼	32B18 	33A37 		33A37 	3-15.243 	

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L5207 𥸪	16A31	17A12		17A12		*Zhangzhongzhu* B 5B
L5304 𥻑	13B77	14B57		14B57	1-67.221	
L5734 𥹮	16A32	17A13		17A13		
L5769 𥽊	22A56	23A35		23A35	1-17.142	
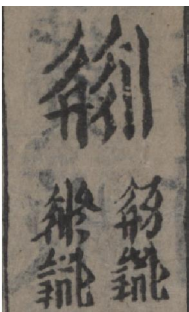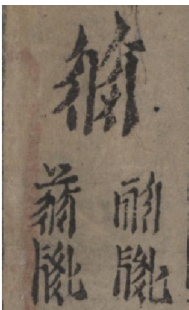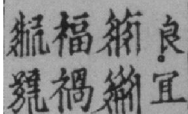
2.19   L2093, L2445, L2545, L2746, L2883, L3580
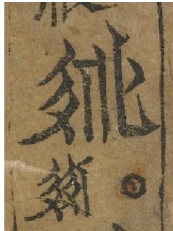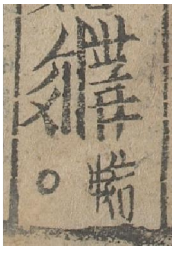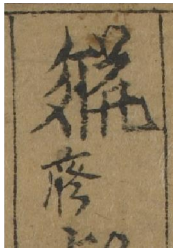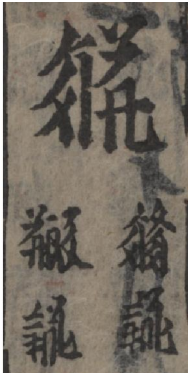
L2008	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L2093							
L2445							
L2342							
L2545							
L2746							
L2883							
L3580							

Li Fanwen 2008 uses the glyphs 丿 and 丨 inconsistently for the same component. The primary Tangut sources indicate that 丨 is the correct glyph form, so we propose changing four of the characters in the above table to use 丨 instead of 丿.

In the case of L2545 慁, as the corresponding form with 丨 has a separate entry in Li Fanwen's dictionary as L2342 慁, we propose changing its glyph to use the form given in Han Xiaomang 2004.

In the case of L2093, the dot above the vertical stroke seems to be a mistake in the one instance of the character in *Wenhai*, and we therefore propose changing the glyph to follow the form given in *Tongyin* A edition, with no dot or horizontal stroke above the vertical stroke.

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L2093 嬴	48A58	48B52			1-75.232	
L2445 翻	25B22	26A64		26A64	1-21.231	
L2342 豹	53B52				1-57.271	
L2545 貅						*Zazi* 16A3 *Zhangzhongzhu* 9B

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L2746 㺲	16B41	17B14		17B14	1-76.171	
L2883 㺲	25B68	26B38	26B38	26B38		
L3580 㺲	29B73	35A51			1-73.251	*Zazi* 16A6
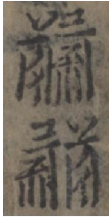
2.20   L1266

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph

Tongyin A 8B57	*Tongyin* B2 9B16	*Tongyin* D 9B16	*Wenhai* 1-35.132	*Wenhai* 1-26.32	*Wenhai* 1-90.172

2.21   L5542
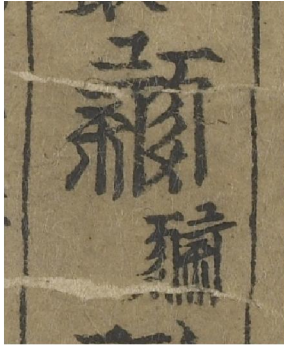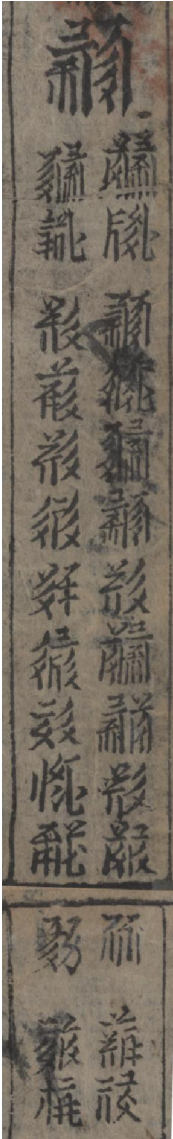
Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𗆾	𗆾	𗆾	𗆾	𗆾	𗆾

Tongyin A 39A41	Tongyin B2 42A12	Wenhai 1-25.261	Wenhai 1-26.132	Wenhai 1-26.132

The correct structure of L5542 can also be seen from its *Homophones* annotation character , L1835 𗆾, where the two components are swapped horizontally.

2.22　L0470
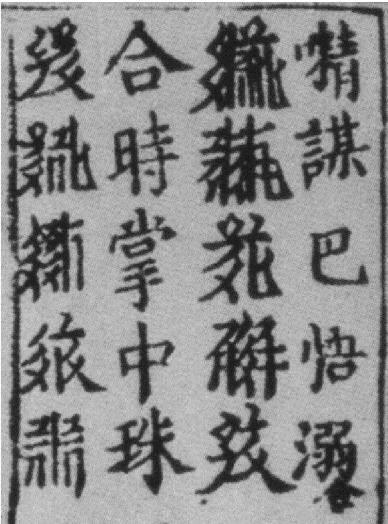
Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	襺	襺	襺	襺	襺	襺

Tongyin A 52A13	Tongyin B1 52A66	Tongyin B2 52A66	Wenhai 1-26.132	Wenhai 1-90.172

2.23 L3589

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
孍	孍	孍	孍	孍	孍	孍
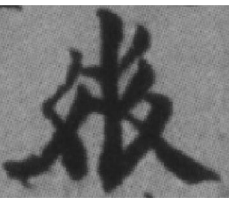
Tongyin A 32A44	*Tongyin* B2 32B61	*Tongyin* D 32B61	*Wenhai* 3-4.232

Suijin A 3A	*Zhangzhongzhu* 3A	*Lunyu* 6-1B5

2.24   L2463

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
娘	娘	娘	娘	娘	娘	娘

Tongyin A 14A24	Tongyin B1 15A15	Tongyin B2 15A15	Tongyin D 15A15

Zazi 13B8	Suijin A 37B	Juyongguan East 27	Wenhai Baoyun 30.37

L2463 is the only character with this medial component. The glyph in Li Fanwen 2008 shows an upward slanting second stroke, but examination of original Tangut sources indicates that the first two strokes are both dots, and that they belong to the left side component as a new radical (彳). This is confirmed by the character construction given in *Wenhai Baoyun*, where L2463 is described as "bottom of 'toil' [L1177], right of 'to love'" 龏祧聚毈.

2.25　L3933

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
枾	枾	枾		枾	枾	枾

Tongyin A 3B73	*Tongyin* D 4B66	*Zazi* D 18A5

L3933 is the only character with this right hand component, which is written slightly differently in Li Fanwen 2008 and Han Xiaomang 2004. Examination of original Tangut sources indicates the glyph shape given in Han Xiaomang 2004 is correct, and that it is the same as the left hand component 𦬇 .

2.26   L5533

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L5533	朔	朔	朔	朔	朔	朔	朔
L3167		鈒	鈒	鈒	鈒	鈒	

	Tongyin A 31B46	*Tongyin* B2 32A72	*Tongyin* D 32A72	*Wenhai* 1-38.251
L5533 朔				
L3167 鈒	42A17	42B38		1-39.141

L5533 is the only character with this right hand component, which is written slightly differently in Han Xiaomang 2004 and Li Fanwen 2008 compared with other modern sources. According to the character construction of L5533 given in *Wenhai* (1-38.251), the character is constructed from "left of 'round', right of 'to salute' [L3167]" 觚譏鈒朓, and so the glyphs for L5533 and L3167 should have the same right hand side component except for the bottom right hook. From the examples above it seems that the glyph for L5533 should be modified to accord with that of L3167.

2.27   L3753

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
𗔻	𗔻	𗔻	𗔻	𗔻	𗔻	𗔻

In Li Fanwen 2008 and Han Xiaomang 2004 the right hand component of L3753 is written as 彡 (6 strokes), whereas in Sofronov 1968 and Kychanov 2006 the right hand component is written as 彡 (7 strokes). Examination of the primary sources shown below indicates that the 7-stroke form is the preferred form for this particular character. 彡 is not in this case a simple glyph variant of 彡, but is a rare component only found in one other character, L1632 𗇤. That this component is not the same as the common 彡 component is indicated by the character construction description for L1632 in *Wenhai* (1-53.133), which states that it is constructed from "left of 'sound', right of 'to listen' [L5026]" 𗓭𗤒𗆤𗤣, i.e. 宀 above 彡.

Tongyin A 22A15	*Tongyin* B1 22B67	*Tongyin* B2 22B67	*Tongyin* D 22B67

Wenhai 1-8.252	*Wenhai* 1-16.231	*Wenhai* 1-19.262	*Wenhai* 1-24.241	*Wenhai* 1-26.243

Wenhai 1-52.262	Wenhai 1-55.262	Wenhai 1-77.161	Wenhai 3-19.251	Wenhai Baoyun 2-12B2

Suijin A 20B

2.28   L3804

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𗾯	𗾯	𗾯	𗾯	𗾯	𗾯

Tongyin A 11A12	Tongyin B1 12A13	Tongyin B2 12A13	Tongyin D 12A13

Wenhai 1-20.242	Zazi 14B4

L3804 is the only character with this right hand component. All examples in original Tangut texts have a glyph form with one less stroke than given in Han Xiaomang 2004, Kychanov 2006 and Li Fanwen 2008.

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	𗅆	𗅆	𗅆	𗅆	𗅆	𗅆

Tongyin A 36A34	*Tongyin* B2 36B61	*Wenhai* 1-57.262

The structure of L2754 is confirmed from the structural composition for L2754 given in *Wenhai* (1-57.262), where the character is described as being constructed from "right of 'to prohibit', right of 'to have' [L2724]" 𗅆𗅆𗅆𗅆. L2724 𗅆 is also given as the annotation character for L2754 in the *Homophones*, and the two characters clearly should share the same right hand component.

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L3597	[glyph]	[glyph]	[glyph]	[glyph]	[glyph]	[glyph]	[glyph]
L4251		[glyph]	[glyph]	[glyph]	[glyph]	[glyph]	[glyph]
L4904		[glyph]	[glyph]	[glyph]	[glyph]	[glyph]	[glyph]

These three characters are not very common, but in all sources other than the *Tongyin* A edition the bottom left component is 纟 rather than 糹 as given in L2008.

	Tongyin A	*Tongyin* B1	*Tongyin* D	*Wenhai*	*Zazi*
L3597 [glyph]	2B11 [glyph]	3A78 [glyph]	3A78 [glyph]		5A3 [glyph]
L4251 [glyph]	2B13 [glyph]	3B12 [glyph]	3B12 [glyph]		6B6 [glyph]

	Tongyin A	*Tongyin* B1	*Tongyin* D	*Wenhai*	*Zazi*
	2B12	3B11	3B11	1-28.221	12B7
L4904 巍					

2.31 L0141 … L6073

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L0141	𗁣	𗁣	𗁣	𗁣	𗁣	𗁣	
L0896		𗁤	𗁤	𗁤	𗁤	𗁤	𗁤
L1010	𗁥	𗁥	𗁥	𗁥	𗁥	𗁥	
L1452	𗁦	𗁦	𗁦	𗁦	𗁦	𗁦	
L1536	𗁧	𗁧	𗁧	𗁧	𗁧	𗁧	𗁧
L1850	𗁨	𗁨	𗁨	𗁨	𗁨	𗁨	
L1851		𗁩	𗁩	𗁩	𗁩	𗁩	𗁩
L1875	𗁪		𗁪	𗁪	𗁪	𗁪	
L2797		𗁫	𗁫	𗁫	𗁫	𗁫	
L3351	𗁬	𗁬	𗁬	𗁬	𗁬	𗁬	

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L3392	�	豵	豵	豵	豵	豵	
L3654	綴	綴	綴	綴	綴	綴	
L3709		綴	綴	綴	綴	綴	
L3778		循	循	循	循	循	
L3945	洮	洮	洮	洮	洮	洮	
L4383		芋	芋	芋	芋	芋	
L4384	茈		茈	茈	茈	茈	
L4392		蒨	蒨	蒨	蒨	蒨	
L4393		蘜	蘜	蘜	蘜	蘜	蘜
L4402		蓶	蓶	蓶	蓶	蓶	蓶
L4497	藙	藙	藙	藙	藙	藙	

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L4498	羧	羧	羧	羧	羧	羧	羧
L4585	魂	魂	跳	跳	跳	跳	
L5001		薜	薜		薜	薜	
L5002				薜	薜	薜	
L5019	薤	薤	薤	薤	薤	薤	
L5206		瓣	瓣	瓣	瓣	瓣	
L5802		姧	姧	姧	姧	姧	
L5834	瓶	瓶	瓶		瓶	瓶	
L5835		瓶		瓶	瓶	瓶	
L5836				瓶	瓶	瓶	瓶
L5837			糕	糕	糕	糕	耗

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L5838		𦉭	𦉭	𦉭	𦉭	𦉭	
L5839		𦉭	𦉭	𦉭	𦉭	𦉭	𦉭
L5840		𦉭	𦉭	𦉭	𦉭	𦉭	
L5841	𦉭	𦉭	𦉭	𦉭	𦉭	𦉭	
L5842	𦉭		𦉭	𦉭	𦉭	𦉭	
L5845	𦉭	𦉭	𦉭	𦉭	𦉭	𦉭	
L5846	𦉭	𦉭	𦉭	𦉭	𦉭	𦉭	
L5847	𦉭	𦉭	𦉭	𦉭	𦉭	𦉭	
L5874	𦉭	𦉭	𦉭	𦉭	𦉭	𦉭	
L5875	𦉭	𦉭	𦉭	𦉭	𦉭	𦉭	
L5893		𦉭		𦉭	𦉭	𦉭	

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L5895		𗧌	𗧌	𗧌	𗧌	𗧌	
L5896	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	
L5910	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	
L5911	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	
L5912			𗧌	𗧌	𗧌	𗧌	
L5913	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	
L5918	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	
L5946		𗧌	𗧌	𗧌	𗧌	𗧌	
L5948		𗧌	𗧌	𗧌	𗧌	𗧌	𗧌
L5949	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	
L5950	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌	𗧌

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L5951		𗈩	𗈩	𗈩	𗈩	𗈩	𗈩
L5952	𗈩	𗈩	𗈩	𗈩	𗈩	𗈩	
L5953	𗈩	𗈩	𗈩	𗈩	𗈩	𗈩	
L5955	𗈩	𗈩	𗈩	𗈩	𗈩	𗈩	
L5956		𗈩	𗈩	𗈩	𗈩	𗈩	𗈩
L5957	𗈩	𗈩	𗈩	𗈩	𗈩	𗈩	
L5958	𗈩	𗈩	𗈩	𗈩	𗈩	𗈩	
L5980			𗈩	𗈩	𗈩	�	
L5981	�	�	�	�	�	�	
L5982	�	�	�	�	�	�	
L5984		�	�	�	�	�	

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L5985	〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	
L5992		〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	〔Tangut glyph〕	
L6073	〔Tangut glyph〕				〔Tangut glyph〕	〔Tangut glyph〕	

The 68 characters in the table above have a mixture of three similar components: 丰, 幸 and 半. In some modern sources (e.g. Nishida 1966, Sofronov 1968) these three components are listed as separate radicals, whereas in some other modern sources (e.g. Li Fanwen 2008, Han Xiaomang 2013) these three components are grouped together under a single radical. Although N4522 distinguishes 半 as a radical, 幸 and 丰 are incorrectly mixed together. Examination of original Tangut materials indicates that Nishida and Sofronov were correct in distinguishing the three components.

That these three components should not be mixed together is indicated by the character constructions given in *Sea of Characters* (see images under *Wenhai* column in the table below) where characters with one of these three components are always derived from another character that shares the same one of these three components:

- L0141 薮 is constructed from L5875 羧 (both 丰)
- L0896 殍 is constructed from L4497 蕨 (both 丰)
- L1452 羲 is constructed from L5911 桃 (both 丰)
- L1851 䛒 is constructed from L5875 羧 (both 丰)
- L3351 綴 is constructed from L1452 羲 (both 丰)
- L3392 蟲 is constructed from L5911 桃 (both 丰)
- L3654 綴 is constructed from L5981 羢 (both 丰)
- L3709 綴 is constructed from L6073 羧 (both 丰)
- L4384 莊 is constructed from L5946 牝 (both 半)
- L4497 蕨 is constructed from L5911 桃 (both 丰)
- L4585 㿗 is constructed from L2797 絆 (both 丰)
- L5206 羰 is constructed from L5841 羈 (both 半)
- L5838 羱 is constructed from L5896 糒 (both 丰)
- L5840 桃 is constructed from L5875 羧 (both 丰)
- L5842 羰 is constructed from L5834 羈 (both 半)
- L5846 拜 is constructed from L5918 撒 (both 丰)
- L5847 羰 is constructed from L5845 耕 (both 丰)
- L5896 糒 is constructed from L5838 羱 (both 丰)
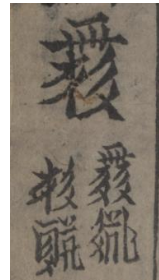
- L5910 〔L5910〕 is constructed from L5875 〔L5875〕 (both 扌)
- L5911 〔L5911〕 is constructed from L5913 〔L5913〕 (both 扌)
- L5913 〔L5913〕 is constructed from L5911 〔L5911〕 (both 扌)
- L5918 〔L5918〕 is constructed from L5846 〔L5846〕 (both 扌)
- L5949 〔L5949〕 is constructed from L5953 〔L5953〕 (both 扌)
- L5950 〔L5950〕 is constructed from L5845 〔L5845〕 (both 扌)
- L5951 〔L5951〕 is constructed from L5981 〔L5981〕 (both 扌)
- L5953 〔L5953〕 is constructed from L5875 〔L5875〕 (both 扌)
- L5955 〔L5955〕 is constructed from L5981 〔L5981〕 (both 扌)
- L5957 〔L5957〕 is constructed from L5950 〔L5950〕 (both 扌)
- L5958 〔L5958〕 is constructed from L5955 〔L5955〕 (both 扌)
- L5981 〔L5981〕 is constructed from L5951 〔L5951〕 (both 扌)
- L5985 〔L5985〕 is constructed from L5911 〔L5911〕 (both 扌)

After reviewing original Tangut sources for the 68 characters with one of these three components we have determined that the following changes are required to 29 characters:
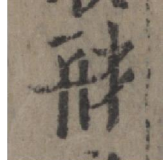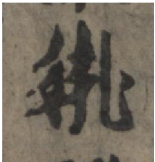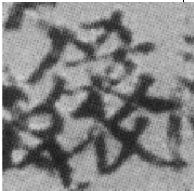
- 16 characters which correctly have the 扌 component in the PDAM font are ordered in N4522 as if they had the 扌 component (one stroke more), and should be reordered to reflect the correct component (L3351, L3778, L5835, L5838, L5846, L5896, L5911, L5913, L5918, L5952, L5955, L5958, L5981, L5982, L5985, L5992);
- 8 characters with the 扌 component in N4522 and Li Fanwen 2008 should be changed to use the 扌 component (L0896, L1536, L4393, L4402, L5837, L5948, L5951, L5956);
- 5 characters with the 扌 component in N4522 and Li Fanwen 2008 should be changed to use the 扌 component (L1851, L4498, L5836, L5839, L5950).
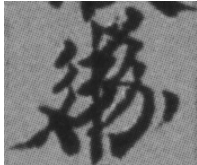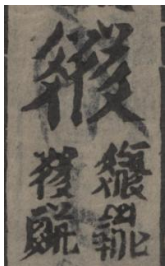
These changes result in the following changes in radical:
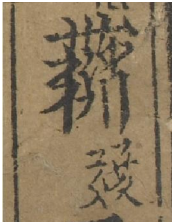
- 14 characters under the 扌 radical are moved to a new 扌 radical;
- 4 characters under the 扌 radical are moved to the 扌 radical;
- 3 characters under the 扌 radical are moved to the 扌 radical.
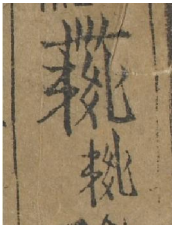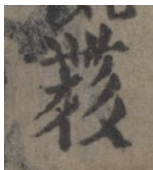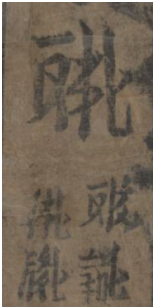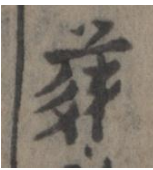
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
扌 L0141 〔L0141〕 (correct)	11A45 	12A45 	12A45 	1-19.171 		
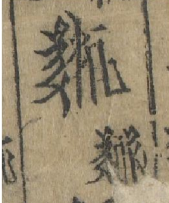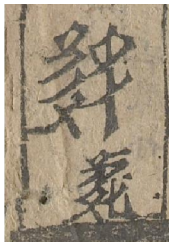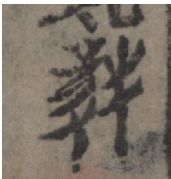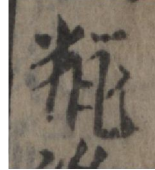
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L0896 殡 (wrong)	23A41	24A24	24A24	1-48.261		
丰 L1010 褊 (correct)	43B51	44A55				
丰 L1452 蕤 (correct)	16B74	20B36	20B36	1-28.231	*Zazi* 15A2	*Dashi* 1A8 *Zhangzhongzhu* A 7B
丰 L1536 潋 (wrong)	40B13	40B61		*Wenhai* 1-62.213		
半 L1850 神 (correct)	47B41	48A31			*Daolishi* 8A4	*Dashi* 6A2
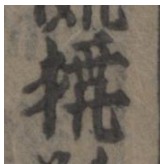
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L1851 弒 (wrong)	53B71 			1-74.141 	*Zazi* 15A3 	*Suijin* 6B32 *Zhangzhongzhu* 34A
丰 L1875 弒 (correct)				1-82.131 		*Wenhai Baoyun* 61.53
丰 L2797 娍 (correct)				1-12.151 	*Lunyu* 6-9A7 	*Suijin* 7B310
丰 L3351 㜧 (correct)	45A77 	45B73 		1-54.261 	*Daolishi* 2B2 	*Suijin* 1B1
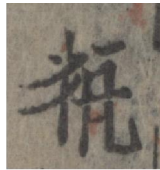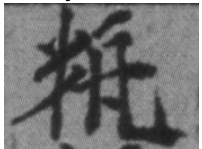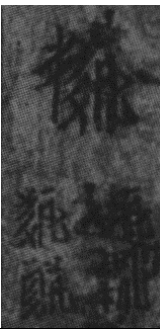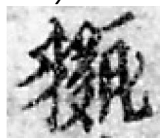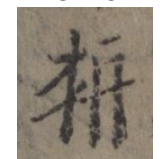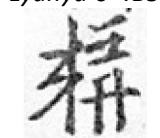
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L3392 䫻 (correct)	35A78 	36A34 		1-15.151 		
丰 L3654 䥽 (correct)	44A26 	44B31 		3-09.121 	*Zazi* 14B6 	*Suijin* 5A54
半 L3709 䥽 (correct)	25B25 			1-39.251 		
丰 L3778 䚟 (correct)	16B66 	17B42 	17B42 			
半 L3945 䥽 (correct)	50A66 	50B52 		1-73.212 	*Zazi* 18B4 	
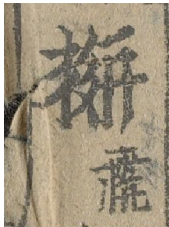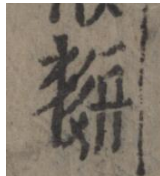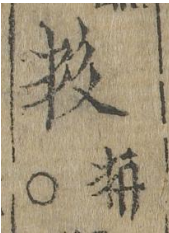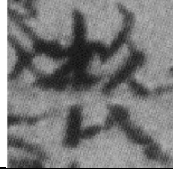
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
半 L4383 芈 (correct)	51A47 					
半 L4384 茞 (correct)	50A61 			1-43.141 		
半 L4392 藉 (correct)	50A62 	50B56 				
丰 L4393 藓 (wrong)	50B34 	51A17 		1-42.121 		
丰 L4402 蘚 (wrong)	23B31 	24B12 	24B12 	1-84.272 1-33.121 		
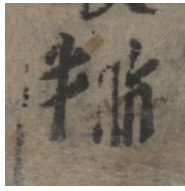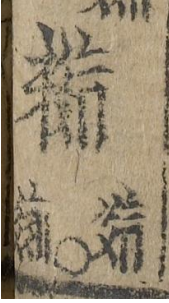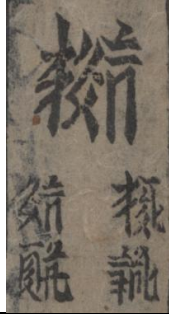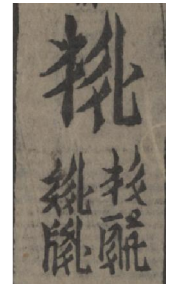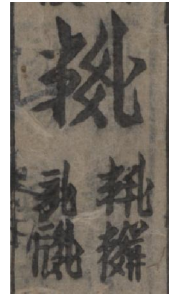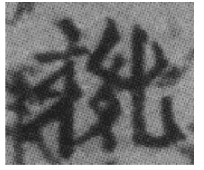
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
L4497 (correct)	33B54	34A15		3-05.152		*Lunyu* 6-5B8
L4498 (wrong)	55B38			1-19.171 1-59.141		
L4585 (correct)	11B32	12B28	12B28	1-26.222		
L5001 (correct)	46B38	47A35		1-59.141		
L5002 (correct)	54A37					*Daishi* 3A1
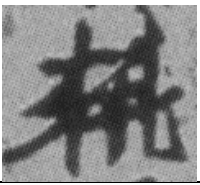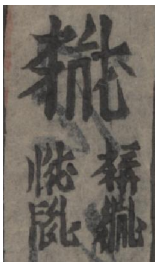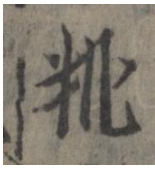
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
半 L5019 羴 (correct)	24A78 	25A63 	25A63 		*Zazi* 17B5 	
半 L5206 䍩 (correct)	54A24 			3-20.171 		
半 L5802 䍹 (correct)	16B36 	17A78 	17A78 	1-79.121 		
半 L5834 瓶 (correct)	50A64 	50B51 		1-71.272 	*Zazi* 8B6 	*Suijin* 3A12
半 L5835 瓶 (correct)	24B51 	25B27 	25B27 			
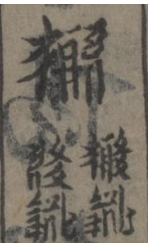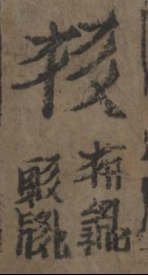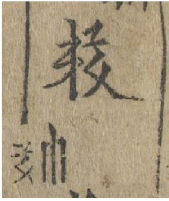
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
L5836 (wrong) [variant of L5845]						
L5837 (wrong) [variant of L5846]						*Zhangzhongzhu* A 6B
L5838 (correct)		38A58		3-18.151		
L5839 (wrong)	53B53			1-18.113	*Zazi* 15A8	
L5840 (correct)	25B43	26B14	26B14	1-20.113		*Daolishi* 4A7
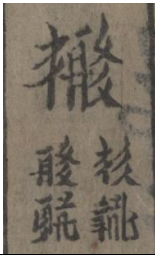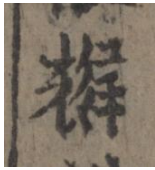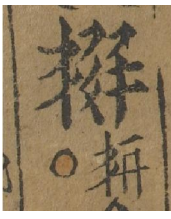
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
半 L5841 瓶 (correct)	24A77	25A62	25A62	1-89.141		*Suijin* 3A11
半 L5842 瓶 (correct)	55A68 (L5198)			3-22.151	*Lunyu* 6-7B6	*Zhangzhongzhu* A 9B
丰 L5845 耕 (correct)	54B32			1-33.142 1-82.131	*Suijin* 8B65	*Zhangzhongzhu* B 26B
丰 L5846 耕 (correct)	45B55	46A46		1-82.261	*Lyunyu* 6-4B5	*Daolishi* 4A8 *Dashi* 2A1
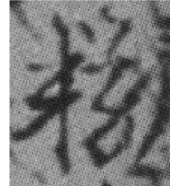
	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L5847 㸘 (correct)	05B15 		06A75 	1-27.271 1-82.131 		
半 L5874 粃 (correct)	50A65 	50B53 				
丰 L5875 敉 (correct)	53B54 			1-33.142 	*Daolishi* 4A8 *Dashi* 3A2 	*Suijin* 3B68
半 L5893 糩 (uncertain) [error for L5842?]						

	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
半 L5895 狮 (correct)	47B63	48A47		1-73.212		
丰 L5896 獅 (correct)	37A78	38A26		1-62.111		
丰 L5910 䶄 (correct)	21A23	21B72	21B72	1-25.221	*Zazi* 12B3 *Zazi* 12B4	*Suijin* 6A23 *Zhangzhongzhu* A 9B
丰 L5911 䶃 (correct)	24B48	25B26	25B26	1-24.231	*Zazi* 5A7 *Lunyu* 8-11A7	*Daolishi* 1A4 *Dashi* 3A1

	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
半 L5912 糩 (correct)	25B23					
半 L5913 鞴 (correct)	50B57	51A53		1-85.251	*Zazi* 13B7	*Suijin* 9B19 *Dashi* 4B6
丯 L5918 粆 (correct)	30A62	31A23	31A23	1-39.131	*Daolishi* 4B1 *Dashi* 1B5	*Suijin* 9B39 *Lunyu* 6-6A6
半 L5946 粃 (correct)	50A63	50B48		1-89.141		

	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L5948 秙 (wrong)	51A51	51B46		3-21.142	*Zazi* 14B7	
丰 L5949 䅮 (correct)	49B56	50A48		1-10.131		
丰 L5950 粆 (wrong)	04A63		05A57	1-33.142	*Zazi* 15A3	*Suijin* 10A56
丰 L5951 粆 (wrong)	44A27	44B32		3-09.131		
丰 L5952 穦 (correct)	14B33	15B21	15B21	1-62.131	*Dashi* 4B2	*Daolishi* 1B7

	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L5953 撒 (correct)	49B55 	50A47 		1-10.122 		
丰 L5955 拜 (correct)	46A13 	46A73 		3-09.222 		
丰 L5956 糁 (wrong)	22B36 	23B18 	23B18 	1-84.272 		
丰 L5957 糁 (correct)	31A38 	31B67 	31B67 	1-82.131 		
丰 L5958 擁 (correct)	46A14 	46A74 		3-20.111 		

	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
半 L5980 糈 (correct)	25A36	26A12 (L6070)	26A12 (L6070)			
丰 L5981 糚 (correct)	44A28	44B28		3-09.113	*Daolishi* 1A1 *Dashi* 1A5 *Lunyu* 6-6B3	*Suijin* 2B63 *Zhangzhongzhu* A 10B
丰 L5982 糚 (correct)	16B68	17B43	17B43			*Daolishi* 5B8
丰 L5984 糤 (correct)	37A47	37B67		1-54.241 1-66.211		

	Tongyin A	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other	Other
丰 L5985 糷 (correct)	31B43	32A71	32A71	1-20.142		
丰 L5992 糑 (correct)	50B33	51A25		1-36.142		
半 L6073 糤 (correct)	25B72					

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
	龎	龎	龎	龎	龎	龎
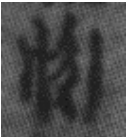
Tongyin A 14A34	Tongyin B1 15A11	Tongyin B2 15A11	Tongyin D 15A11	Wenhai 1-63.271	Wenhai 1-77.123
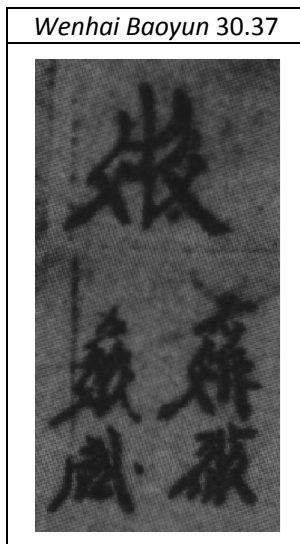
Wenhai Baoyun 30.37

Kychanov 2006 and Li Fanwen 2008 both show a single dot on the bottom left component, but the original Tangut sources all show that the bottom left component has two dots. This is confirmed by the character construction given in *Wenhai Baoyun*, where L2463 㑲 is described as "bottom of 'toil' [L1177], right of 'to love'" 龎𭣰𢉦𭣫.

2.33 L1947 and L2354

	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
N/A			 H2 0284				
L1947			 H2 0285				
L2354			 H2 0286				

Tongyin A 4B48	*Tongyin* D 5B44	*Wenhai Baoyun* 29.69	*Yueyueleshi* 3B	*Wenhai* 1-27.251	*Wenhai* 1-45.161
H2 0284	H2 0285 L1947	H2 0284	H2 0285 L1947	H2 0286 L2354	H2 0286 L2354

Han Xiaomang 2004 lists three variants of the character meaning 'deep green' [pjij] (H1 0276 = H2 0284, 0285, 0286). He lists H2 0284 as the correct form of the character, and H2 0285 and 0286 as incorrect variant forms. Han Xiaomang's analysis is correct, as the character construction given in *Wenhai Baoyun* is "[left of] 'to pass through' and 'to penetrate', and right of 'seedling'" 𗭺𗅲𗤛𗿧, which indicates that the right side component is the final stroke of L2218 𗤛, i.e. a curved stroke, not a vertical stroke.

However, Kychanov 2006, Li Fanwen 2008 and other sources only include the two variant character forms, and do not include the correct character form (H2 0284).   In this case it would be inappropriate to change the glyph of either L1947 or L2354 to the form shown in H2 0284, as that would destabilize the source mapping for these two characters, so the best solution would be to add a new Tangut ideograph to the repertoire that maps to H2 0284 (kTGT_MergedSrc = H2004-B-0284).

3. *Previous Changes to Glyph Forms*

This section lists glyph changes that have made to characters prior to N4522, and which are already incorporated into the PDAM charts for Tangut. These are changes to obvious mistakes in Li Fanwen 2008, and both cases the correct glyph is given in Li Fanwen 1997 and most other modern sources. Evidence for the correct glyph form is provided here retrospectively for reference, and no further action on these characters is required.

3.1   L0949

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 1997	Li Fanwen 2008	PDAM Glyph
	蕊	蕊	蕊	蕊	蕊	蕊

Tongyin A 47A55	Tongyin B2 47B46	Wenhai 1-64.121

3.2   L2834

Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 1997	Li Fanwen 2008	PDAM Glyph
朘	朘	朘	朘	朘	朘	朘

Tongyin A 19B62	*Tongyin* B2 20A67	*Tongyin* D 20A67	*Wenhai* 1-42.272
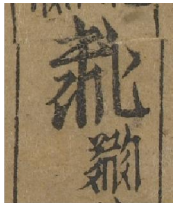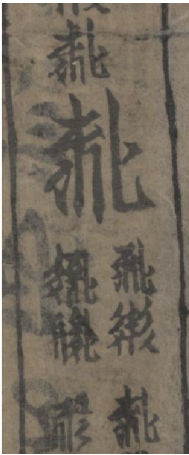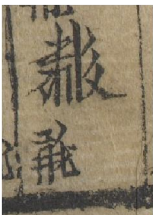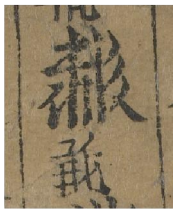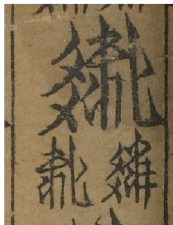
4. Uncertain Glyph Forms

This section lists some characters where the correct glyph form cannot be determined with certainty. These are provided for possible discussion by experts, but unless further evidence can be adduced it is probably best to leave the glyph forms as they are in the PDAM charts.

4.1   L2245, L2647, L3302, L3674, L4340

L2008	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L4448	𘚢	𘚢	𘚢	𘚢	𘚢	𘚢	
L4443		𘚣	𘚣	𘚣	𘚣	𘚣	
L2800	𘚤	𘚤	𘚤	𘚤	𘚤	𘚤	
L5467		𘚥	𘚥	𘚥	𘚥	𘚥	

All characters with the 肅 component are written as 6 strokes without a dot terminator on the first stroke, but three out of the four characters with the 肅 component are written as 5 strokes with a dot terminator on the first stroke in some primary Tangut sources.

	Tongyin A	*Tongyin* B2	*Tongyin* C	*Tongyin* D	*Wenhai*	Other
L4448 𫗪 (dot)	27B28	28A46	28A46	28A46	1-32.231	
L4443 𫗪 (no dot)	50A28	50B22				
L2800 𫗪 (dot ?)	46A24	46B13				
L5467 𫗪 (dot)	46A28	46B15				
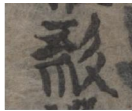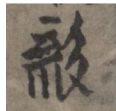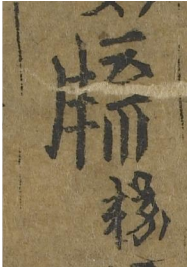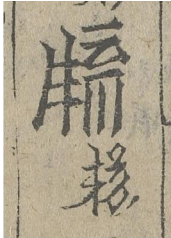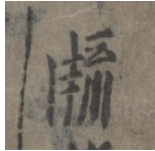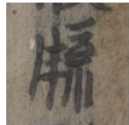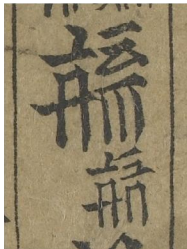
	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L0150							
L0462							
L0638							
L0982							
L1445							
L1986							
L2296							
L3884							
L4382							
L5012							
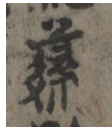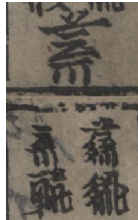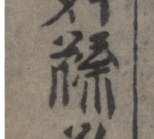
	Nishida 1966	Sofronov 1968	Han Xiaomang 2004	Kychanov 2006	Li Fanwen 2008	PDAM Glyph	New Glyph
L5054	𗧊	𗧊	𗧊	𗧊	𗧊	𗧊	
L5155							
L5461							

The 13 characters with the 𗧊 component (Radical R309) may be written with an extra dot as 𗧊 , but original Tangut sources are inconsistent, and so it is not clear whether the dot is correct or a mistake. A possible solution to this issue would be to define variations sequences for dotted and dotless forms.

	Tongyin A	*Tongyin* B1	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other
L0150	23B74	29A61	29A61	29A61	1-64.251	
L0462	16A22		16B73	16B73	1-70.242 / 1-36.163	

	Tongyin A	Tongyin B1	Tongyin B2	Tongyin D	Wenhai	Other
L0638 㲅	13B56	14B32	14B32	14B32	1-44.231 1-57.163 1-65.112	
L0982 䍀	17A46	20B42	20B42	20B42		*Wenhai Baoyun* 103 *shang*
L1445 㵱	50A72		50B57			

	Tongyin A	*Tongyin* B1	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other
L1986 牖	16B51		17B23	17B23	1-83.211 1-89.172	
L2296 牖	23B73	24B54	24B54	24B54		
L3884 牖	27B14	28A34	28A34	28A34		*Zazi* 17A2
L4382 牖	23B75	24B55	24B55	24B55		

	Tongyin A	*Tongyin* B1	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other
L5012 䒼	36A63		37A18		1-7.212 1-55.272	*Zazi* 13A2
L5054 䒼	36A62		37A21		1-7.213	
L5155 䌉	21B31	22A78	22A78	22A78	1-69.212 1-80.271	

	Tongyin A	*Tongyin* B1	*Tongyin* B2	*Tongyin* D	*Wenhai*	Other
	48A45	48B37	48B37		1-77.262	
L5461 蕬					 1-65.112 	