

**Title:** CJK & Unihan Working Group Recommendations for UTC #182 Meeting

**Author:** Ken Lunde

**Date:** 2025-01-10

This document provides the CJK & Unihan Working Group recommendations for the UTC #182 meeting, based on a meeting that took place on 2025-01-03 from 6 to 7PM PST, which was attended by Yi Bai, Eiso Chan, Lee Collins, Peter Constable, Ken Lunde, William Nelson, CheonHyeong Sim, Hong Sng, Stephan Hyeonjun Stiller and Harald Tveiten via [Zoom](#). The Chair of the [CJK & Unihan Working Group](#), Ken Lunde, chaired the meeting.

The CJK & Unihan Working Group reviewed public feedback and documents that were received since the UTC #181 meeting took place. Comments are marked in **green**, and Recommendations to the UTC are marked in **red**. A “plain text” Copy&Paste-ready version of the Recommendations is also provided as the PDF attachment named *recommendations-20250103.txt*.

## **PRI #508 Feedback**

The five items of [PRI #508](#) (*Proposed Update UAX #38*) feedback that are in this section were reviewed and discussed by the WG, and for convenience, the following data file, which is a PDF attachment, includes the recommended Unihan database changes based on them:

- *Unihan\_IRGSources-changes-20250103.txt*

The recommended Unihan database changes are also shown inline, following the **Recommendations**.

### **01) ID20241115010810**

**Date/Time:** Fri Nov 15 01:08:10 CST 2024

ReportID: ID20241115010810

Name: Judith Chen

Report Type: Public Review Issue

Opt Subject: **508**

The `kRSUnicode` property value of U+24822 𪗇 should be 94.9 instead of 94.10 to match the `kTotalStrokes` property value of 13.

**Comments:** The WG reviewed and discussed this feedback, and agreed that the `kRSUnicode` property value of U+24822 𪗇 should be changed from **94.10** to **94.9**. The WG also noted that the feedback agrees with this ideograph’s source, specifically the dictionary entitled *Ci Yuan* (辭源) in which the ideograph is listed among other ideographs with nine residual strokes. See the excerpt below:

## 九 畫

猷 yóu 以周切，平，尤韻，喻。  
𠂔

⊖謀畫。書君陳：“爾有嘉謀嘉猷，則入告爾后于內。”⊖道，法則。詩小雅巧言：“秩秩大猷，聖人莫之。”書周官：“若昔大猷，制治于未亂，保邦于未危。”⊖發語詞。書盤庚上：“猷，黜乃心。”又大誥：“王若曰：‘猷，大誥爾多邦。’”

猷 dú 徒谷切，入，屋韻，定。  
𠂔

鼠名。山海經中山經：“(甘藜之山)有猷焉，其狀如猷鼠而文題，其名曰羆，食之已瘵。”廣韻作“猷”。

**Recommendations:** The WG recommends to the UTC the following disposition ⇨

**Consensus:** Accept the proposal to change the informative kRSUnicode property value of U+24822, based on PRI #508 feedback [ID20241115010810] and Section 01 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, CJK:** Change the kRSUnicode property value of U+24822 in ISO/IEC 10646’s CJKSrc.txt data file, based on PRI #508 feedback [ID20241115010810] and Section 01 of document L2/25-009, and provide to Ken Lunde an updated Unihan17.txt data file, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Use the updated Unihan17.txt data file to update the Unihan database, based on PRI #508 feedback [ID20241115010810] and Section 01 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 01 of document L2/25-009. See PRI #508 feedback [ID20241115010810].

Current:

U+24822 kRSUnicode 94.10

Adjusted:

U+24822 kRSUnicode 94.9

## 02) ID20241121070501

**Date/Time: Thu Nov 21 07:05:01 CST 2024**

ReportID: ID20241121070501

Name: Michel Mariani

Report Type: Public Review Issue

Opt Subject: **508**

- The kTotalStrokes property of the following CJK ideographs made of two repeated components is obviously incorrect; each numeric value should be even, not odd:

U+56CD	kTotalStrokes	21
U+22035	kTotalStrokes	5
U+225F0	kTotalStrokes	7
U+22A92	kTotalStrokes	7
U+23D0F	kTotalStrokes	9
U+24934	kTotalStrokes	9
U+25749	kTotalStrokes	17
U+2699A	kTotalStrokes	17
U+28C8D	kTotalStrokes	15
U+28E19	kTotalStrokes	5
U+29A86	kTotalStrokes	19

should be:

U+56CD	kTotalStrokes	24
U+22035	kTotalStrokes	6
U+225F0	kTotalStrokes	8
U+22A92	kTotalStrokes	8
U+23D0F	kTotalStrokes	10
U+24934	kTotalStrokes	10
U+25749	kTotalStrokes	18
U+2699A	kTotalStrokes	16
U+28C8D	kTotalStrokes	16
U+28E19	kTotalStrokes	4
U+29A86	kTotalStrokes	18

- Likewise, for these CJK ideographs made of multiple repeated components:

U+264C8	kTotalStrokes	17
U+264CB	kTotalStrokes	23

should be:

U+264C8	kTotalStrokes	18
U+264CB	kTotalStrokes	24

- Accordingly, these kRSUnicode properties should also be corrected:

U+22035 kRSUnicode 49.2  
U+28E19 kRSUnicode 170.3  
U+29A86 kRSUnicode 188.10

should be:

U+22035 kRSUnicode 49.3  
U+28E19 kRSUnicode 170.2  
U+29A86 kRSUnicode 188.9 188.10

**Comments:** The WG reviewed and discussed this feedback, and agreed that the proposed *kRSUnicode* and *kTotalStrokes* property values are appropriate, except for those for U+28E19 𠄎 and U+29A86 𠄎, which do not follow IRG conventions for counting strokes. In other words, their *kTotalStrokes* property values should instead be changed to **6** and **20**, respectively, and their *kRSUnicode* property values should not be changed.

Note that IRG document [IRG N2711](#), which is expected to be discussed during IRG Meeting #64 in March, proposes that the informative *kTotalStrokes* property be changed to accept only one property value, specifically the one that follows IRG conventions.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to change the informative *kRSUnicode* property value for U+22035, and to change the informative *kTotalStrokes* property values for 13 ideographs, based on PRI #508 feedback [ID20241121070501] and as amended in Section 02 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, CJK:** Change the *kRSUnicode* and *kTotalStrokes* property values in ISO/IEC 10646's CJKSrc.txt data file, based on PRI #508 feedback [ID20241121070501] and as amended in Section 02 of document L2/25-009, and provide to Ken Lunde an updated Unihan17.txt data file, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Use the updated Unihan17.txt data file to update the Unihan database, based on PRI #508 feedback [ID20241121070501] and as amended in Section 02 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 02 of document L2/25-009. See PRI #508 feedback [ID20241121070501].

Current:

U+56CD	kTotalStrokes	21
U+22035	kRSUnicode	49.2
U+22035	kTotalStrokes	5
U+225F0	kTotalStrokes	7
U+22A92	kTotalStrokes	7
U+23D0F	kTotalStrokes	9
U+24934	kTotalStrokes	9
U+25749	kTotalStrokes	17
U+264C8	kTotalStrokes	17
U+264CB	kTotalStrokes	23
U+2699A	kTotalStrokes	17

U+28C8D	kTotalStrokes	15
U+28E19	kTotalStrokes	4
U+29A86	kTotalStrokes	18

Adjusted:

U+56CD	kTotalStrokes	<b>24</b>
U+22035	kRSUnicode	<b>49.3</b>
U+22035	kTotalStrokes	<b>6</b>
U+225F0	kTotalStrokes	<b>8</b>
U+22A92	kTotalStrokes	<b>8</b>
U+23D0F	kTotalStrokes	<b>10</b>
U+24934	kTotalStrokes	<b>10</b>
U+25749	kTotalStrokes	<b>18</b>
U+264C8	kTotalStrokes	<b>18</b>
U+264CB	kTotalStrokes	<b>24</b>
U+2699A	kTotalStrokes	<b>16</b>
U+28C8D	kTotalStrokes	<b>16</b>
U+28E19	kTotalStrokes	<b>6</b>
U+29A86	kTotalStrokes	<b>20</b>

### 03) ID20241210113252

**Date/Time: Tue Dec 10 11:32:52 CST 2024**

ReportID: ID20241210113252

Name: Judith Chen

Report Type: Public Review Issue

Opt Subject: **508**

Currently, U+51F5 𠄎 and U+2F81D 𠄎 share the same T-source representative glyph. However, the glyph of U+2F81D 𠄎 does not match its source reference value of T5-2129, which has a glyph identical to U+20674 △, as seen on the 全字庫 CNS11643 website. Additionally, the glyph of U+2F81D 𠄎 also matches U+20674 △ in the 異體字字典 released by Taiwan's Ministry of Education.

In WG2 N2270, the glyph of U+2F81D 𠄎 was the same as it is today, while the glyph of U+51F5 𠄎 was similar to U+20674 △. However, the T-source glyph of U+51F5 𠄎 has remained unchanged since the very first version of ISO/IEC 10646. Furthermore, the Kangxi index for U+2F81D 𠄎 was 0134.400, which also matches U+20674 △. Clearly, the glyphs of U+51F5 𠄎 and U+2F81D 𠄎 were confused in WG2 N2270, leading to the mistaken unification of T5-2129 to U+51F5 𠄎 instead of U+20674 △, and the encoding of U+2F81D 𠄎.

Therefore, I suggest moving T5-2129 with a corrected glyph to U+20674 △, and revising the kIRG\_TSource property of U+2F81D 𠄎 to TU-2F81D.

That is all.

Reference:

- 字形資訊 - [𠄎] 2-2123 - 全字庫 CNS11643 (2024). <https://www.cns11643.gov.tw/wordView.jsp?ID=139555>

- 字形資訊 - [𠄎] 5-2129 - 全字庫 CNS11643 (2024). <https://www.cns11643.gov.tw/wordView.jsp?ID=336169>

- [N00506] 𠄎 - 教育部《異體字字典》臺灣學術網路十四版（正式七版）2024. <https://dict.variants.moe.edu.tw/dictView.jsp?ID=115808>

- [C00513] 𠂇 - 教育部《異體字字典》臺灣學術網路十四版（正式七版）2024. <https://dict.variants.moe.edu.tw/dictView.jsp?ID=79366>

- ISO/IEC JTC1/SC2/WG2 N2270 - Updated CJK Compatibility Ideographs sets from TCA. <https://www.unicode.org/wg2/docs/n2270.pdf>

**Comments:** The WG reviewed and discussed this feedback, which is proposing that U+2F81D 𠂇 be disunified, with its disunified form already encoded in Extension B at U+20674 𠂇, and agrees that doing so would be appropriate. Ken Lunde forwarded this feedback to TCA, and they responded on 2024-12-27 by stating that they agree with this feedback, but that they prefer to prepare and submit a document for IRG Meeting #64 in March. Per Section 7.2 of document [IRG N2755](#), which is the schedule and agenda for IRG Meeting #64, document IRG N2778 has been pre-assigned for this pending disunification proposal. In other words, no UTC action is necessary at this time, other than to convey these comments to the feedback submitter.

**Recommendations:** The WG recommends to the UTC the following disposition ⇨

**Action Item for Ken Lunde, CJK:** Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 03 of document L2/25-009. See PRI #508 feedback [ID20241210113252].

## 04) ID20241212210317

**Date/Time:** Thu Dec 12 21:03:17 CST 2024

ReportID: ID20241212210317

Name: Eiso Chan

Report Type: Error Report

Opt Subject: **KP0-FBFD**

Current KP0-FBFD and KP1-8833 glyphs are the same. KP0-FBFD doesn't match other sources.

**Comments:** The WG reviewed and discussed this feedback, and while it is true that the KP-source representative glyph for U+98EE (aka KP0-FBFD) does not match the KPS 9566 standard (as glimpsed via [ISO-IR-2022:1998](#) at Row-Cell 91-93) nor the other sources, one of the stakeholders of the KP-source representative glyphs who was present at the meeting, CheonHyeong Sim, recommends that no UTC action be taken at this time. Note that U+98EE 飲 and U+98F2 飲 are unifiable, and the KP-source typeface designer chose to use a uniform glyph for both. Ken Lunde, the author of [UTN #50](#), *KP-Source Property Value History*, will be updating that UTN to include notes about this and other KP-source issues. See the code chart excerpts below:

98EE  
食 184.4

飲  
GE-544E

飲 飲 飲  
J0-5D3B K0-6B66 KP0-FBFD

98F2  
食 184.4

飲 飲 飲 飲 飲 飲 飲  
G1-527B HB1-B6BC T1-6323 J0-307B K6-1078 KP1-8833 V1-6C2B

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**No UTC action is required.**

**05) ID20241225205250**

**Date/Time: Wed Dec 25 20:52:50 CST 2024**

ReportID: ID20241225205250

Name: Judith Chen

Report Type: Public Review Issue

Opt Subject: **508**

The *kRSUnicode* property value of U+2C0D1 糒 should be 75.9 instead of 75.8 to match the *kTotalStrokes* property value of 13.

References:

- IRG N1279-A - Viet Nam CJK\_C Remainers Submitting to IRG. <https://drive.google.com/uc?id=1lBt-u0F-7D4KbAFBR7XusFwskMvpFL0k&export=download>
- 03067 | 糒 | WS2024v1.0. <https://hc.jsecs.org/irg/ws2024/app/?id=03067>

**Comments:** The WG reviewed and discussed this feedback, and agreed that the *kRSUnicode* property value of U+2C0D1 糒 should be changed from **75.8** to **75.9**. Vietnam’s representative was present during the meeting, and also agreed to change this *kRSUnicode* property value per the feedback. See the code chart excerpt below:

2C0D1  
木 75.8  
糒  
V4-4B38

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to change the informative *kRSUnicode* property value of U+2C0D1, based on PRI #508 feedback [ID20241225205250] and Section 05 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, CJK:** Change the *kRSUnicode* property value of U+2C0D1 in ISO/IEC 10646’s CJKSrc.txt data file, based on PRI #508 feedback [ID20241225205250] and Section 05 of document L2/25-009, and provide to Ken Lunde an updated Unihan17.txt data file, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Use the updated Unihan17.txt data file to update the Unihan database, based on PRI #508 feedback [ID20241225205250] and Section 05 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 05 of document L2/25-009. See PRI #508 feedback [ID20241225205250].

Current:

U+2C0D1      kRSUnicode                      75.8

Adjusted:

U+2C0D1      kRSUnicode                      75.9

## Public Feedback

The two items of public feedback from document [L2/25-005](#) that are in this section were reviewed and discussed by the WG, and for convenience, the following data files, which are PDF attachments, include the recommended Unihan database additions, changes, and removals based on them:

- *Unihan-additions-20250103.txt*
- *Unihan-changes-20250103.txt*
- *Unihan-removals-20250103.txt*
- *kMandarin-changes-20250103.txt*

With the exception of the proposed *kMandarin* property value changes, the recommended Unihan database additions, changes, and removals are also shown inline, following the **Recommendations**.

### 06) ID20241031101114

**Date/Time: Thu Oct 31 10:11:14 CDT 2024**

ReportID: ID20241031101114

Name: Andrew West

Report Type: Error Report

Opt Subject: **Unihan\_Variants.txt**

In Unihan\_Variants.txt there are these two entries:

U+47B6    kSimplifiedVariant    U+2C985

U+2C985    kTraditionalVariant    U+47B6

However, U+47B6 趨 (𨇗走易) does not simplify to U+2C985 趨 (𨇗走彳), which is actually the simplified form of U+27F2E 趨 (𨇗走易).

Therefore remove these two entries:

U+47B6    kSimplifiedVariant    U+2C985

U+2C985    kTraditionalVariant    U+47B6

And add these two entries:



U+27F2E kSimplifiedVariant U+2C985

U+2C985 kTraditionalVariant U+27F2E

In addition the kMandarin and kHanyuPinyin readings in Unihan\_Readings.txt are swapped for U+47B6 and U+27F2E:

U+27F2E kHanyuPinyin 53492.080:tì

U+27F2E kMandarin tì

U+47B6 kHanyuPinyin 53494.110:tāng,tàng

U+47B6 kMandarin tāng

U+27F2E should have the readings tāng and tàng (cf. kFanqie = 吐郎, kJapanese = トウ).

U+47B6 should have the reading tì (cf. kJapanese = テキ チャク).

**Comments:** The WG reviewed and discussed this feedback, and agreed that the proposed *kSimplifiedVariant* property value removal, *kHanyuPinyin* and *kTraditionalVariant* property value changes, and *kSimplifiedVariant* addition are appropriate. As usual, the proposed *kMandarin* property value changes will need to be checked by the CLDR-TC prior to the UTC accepting them.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Action Item for Ken Lunde, CJK:** Update the Unihan database to remove, change, and add provisional kHanyuPinyin, kSimplifiedVariant, and kTraditionalVariant property values, based on feedback [ID20241031101114] in document L2/25-005 and Section 06 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Sharon Chen, CJK:** Ask the CLDR-TC to check the proposed kMandarin property value changes, then report back to the UTC. See feedback [ID20241031101114] in document L2/25-005 and Section 06 of document L2/25-009.

**Action Item for Ken Lunde, CJK:** Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 06 of document L2/25-009. See feedback [ID20241031101114] in document L2/25-005.

Current:

U+47B6	kHanyuPinyin	53494.110:tāng,tàng
U+47B6	kSimplifiedVariant	U+2C985
U+2C985	kTraditionalVariant	U+47B6
U+27F2E	kHanyuPinyin	53492.080:tì

Remove:

U+47B6	kSimplifiedVariant	U+2C985
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Adjusted:

U+47B6	kHanyuPinyin	53494.110:tì
U+2C985	kTraditionalVariant	<b>U+27F2E</b>
U+27F2E	kHanyuPinyin	53492.080:tāng,tàng

New:

U+27F2E	kSimplifiedVariant	U+2C985
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## 07) ID20241120205441



**Date/Time:** Wed Nov 20 20:54:41 CST 2024

ReportID: ID20241120205441



Name: Paul Masson

Report Type: Error Report

Opt Subject: **Chinese encoding of U+48CB** 邶




The Chinese encoding of this character is currently , when it should be  邶.

**Comments:** This feedback notes that in China's standards, specifically GB 18030, the representative glyph of U+48CB has a different left side component than is shown as the G-source representative glyph for this ideograph in Unicode Version 16.0. (The correct component corresponds to U+91C7 采 with eight strokes, whereas the component in the current representative glyph corresponds to U+91C6 采 with seven strokes.)



The WG reviewed and discussed this feedback, and while it agreed that the G-source representative glyph of U+48CB should be changed to reflect the appearance indicated by the IDS (*Ideographic Description Sequence*)  邶 per the feedback, particularly because all versions of the GB 18030 standard use this representative glyph, China first needs to agree to make this change. The WG also noted that the G-source representative glyph with the appearance  邶 was first introduced in Unicode Version 5.2 (2009) and in ISO/IEC 10646:2011.

In order to resolve this issue, Ken Lunde forwarded this feedback to China, and China agreed to update the G-source representative glyph according to the feedback. China provided to Michel Suignard the updated representative glyph on 2025-01-09.

Below is the code chart excerpt for this ideograph in Unicode Version 16.0:

<b>48CB</b>			
邑 163.8	G3-7126	T4-356E	JMJ-005067

Below is the code chart excerpt for this ideograph in ISO/IEC 10646:2003:

072/203		
<b>48CB</b>	3-7126	4-356E
	3-8106	4-2178

Below, from left to right, are code chart excerpts for this ideograph in the 2000, 2005, and 2022 versions of the GB 18030 standard:

4 8 C B

4 8 C B

4 8 C B

Due to the nature of this representative glyph change, the WG further recommends that a glyph erratum notice be issued.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to change the G-source representative glyph of U+48CB in the CJK Unified Ideographs Extension A block, based on feedback [ID20241120205441] in document L2/25-005 and Section 07 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, Charts:** Apply the G-source representative glyph change to the code chart for the CJK Unified Ideographs Extension A block with an updated TrueType font provided by China, based on feedback [ID20241120205441] in document L2/25-005 and Section 07 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Whistler, EDC:** Draft and post an erratum notice about the correction of the G-source representative glyph for U+48CB, based on feedback [ID20241120205441] and Section 07 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the feedback submitter the CJK & Unihan Working Group comments in Section 07 of document L2/25-009. See feedback [ID20241120205441] in document L2/25-005.

## UAX #38 / Unihan Database Documents

The UTC document in this section was reviewed and discussed by the WG, and for convenience, the following data files, which are PDF attachments, include all of the recommended Unihan database additions and changes based on it:

- *kMandarin-additions-vetted-20250103.txt*
- *kMandarin-changes-vetted-20250103.txt*

**08) L2/25-029:** One update to document L2/23-269 and feedback on year-2023 proposed kMandarin changes/additions for 102 characters (per two UTC actions)

**Comments:** This document completes the following two UTC Action Items from 2023 by vetting the recommended informative *kMandarin* property value additions:

177-A10 per L2/23-237R Section 05

177-A16 per L2/23-237R Section 07

This document also amends document [L2/23-269](#) to agree with the proposed *kMandarin* property values for U+8457 著 that were proposed in document [L2/22-008](#), *zhù* and *zhe*, which was covered by the following UTC Action Item from 2022:

[170-A92](#) per [L2/22-022](#) Section 12

**Recommendations:** The group recommends to the UTC the following disposition ⇨

**Consensus:** Accept the informative *kMandarin* property value additions and change as reviewed and amended by the CLDR-TC, based on document [L2/25-029](#) (Chen) and Section 08 of document [L2/25-009](#), for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Update the Unihan database to add and change *kMandarin* property values, based on document [L2/25-029](#) and Section 08 of document [L2/25-009](#), for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the author of document [L2/25-029](#) the CJK & Unihan Working Group comments in Section 08 of document [L2/25-009](#).

## UAX #45 / U-Source Documents

The five UTC documents in this section were reviewed and discussed by the WG, and for convenience, the following data file, which is a PDF attachment, includes the recommended UAX #45 *USourceData.txt* data file additions based on it:

- *USource-additions-20250103.txt*

The recommended UAX #45 *USourceData.txt* data file additions are also shown inline, immediately following the **Recommendations**.

### 09) [L2/24-263](#): Proposal to add one ideograph used in Japanese ancient books

**Comments:** The WG reviewed and discussed this proposal, and agreed that adding the ideograph to UAX #45 is reasonable, with an assigned status value of **FutureWS**. The ideograph, whose representative glyph is shown below, can therefore be considered as a candidate for inclusion in the UTC's submission for the next IRG working set:

𪛗

**Recommendations:** The WG recommends to the UTC the following disposition ⇨

**Consensus:** Accept one new U-source ideograph as UTC-03566 with a UAX #45 status value of FutureWS, based on document [L2/24-263](#) (Lin) and Section 09 of document [L2/25-009](#), for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Add one new record to the UAX #45 USourceData.txt data file and its representative glyph to USourceGlyphs.pdf, based on document L2/24-263 and Section 09 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the author of document L2/24-263 the CJK & Unihan Working Group comments in Section 09 of document L2/25-009.

New:

UTC-03566;FutureWS;;118.13;;𠬪竹愚;UTCDoc L2/24-263;kJapanese ぼかむら;19;2

## 10) L2/24-266: Proposal to add two abbreviated Japanese ideographs to UAX #45

**Comments:** An earlier and related proposal, document [L2/24-125](#), proposed the encoding of several ideographs that are unusual in that they include non-Han components. While such ideographs appear to be valid candidates for encoding, their unusual nature presents some open issues that need to be resolved by the IRG with regard to how such ideographs should be handled in the Unicode Standard and in ISO/IEC 10646. This document cherry-picks two of these ideographs for which there is very strong evidence, and proposes that they be added to UAX #45 so that they can be included in a submission to the IRG.

The WG reviewed and discussed this proposal, and agreed that adding the two ideographs to UAX #45 is reasonable, with an assigned status value of **FutureWS**. The ideographs, whose representative glyphs are shown below, are expected to be submitted to the IRG as urgently needed characters to be discussed during IRG Meeting #64 in March:

𠬪 𠬯

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept two new U-source ideographs as UTC-03567 and UTC-03568 with a UAX #45 status value of FutureWS, based on document L2/24-266 (Kojitani) and Section 10 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Add two new records to the UAX #45 USourceData.txt data file and their representative glyph to USourceGlyphs.pdf, based on document L2/24-266 and Section 10 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the author of document L2/24-266 the CJK & Unihan Working Group comments in Section 10 of document L2/25-009.

New:

UTC-03567;FutureWS;;53.3;;𠬪广K;UTCDoc L2/24-266 1;kJapanese ケイ よろこ  
ぶ;kSemanticVariant U+6176;6;0

UTC-03568;FutureWS;;53.1;;𠬪广〇;UTCDoc L2/24-266 2;kJapanese オウ;kSemanticVariant  
U+61C9;4;0

## 11) L2/24-269: Proposal to add two characters used in Chinese rime tables to UAX #45

**Comments:** The WG reviewed and discussed this proposal, and agreed that adding the two ideographs to UAX #45 is reasonable, with an assigned status value of **FutureWS**. The ideographs, whose representative glyphs are shown below, can therefore be considered as candidates for inclusion in the UTC’s submission for the next IRG working set:

孩 隄

**Recommendations:** The WG recommends to the UTC the following disposition ⇨

**Consensus:** Accept two new U-source ideographs as UTC-03569 and UTC-03570 with a UAX #45 status value of FutureWS, based on document L2/24-269 (Chen) and Section 11 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Add two new records to the UAX #45 USourceData.txt data file and their representative glyphs to USourceGlyphs.pdf, based on document L2/24-269 and Section 11 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the author of document L2/24-269 the CJK & Unihan Working Group comments in Section 11 of document L2/25-009.

New:

UTC-03569;FutureWS;;78.6;;𠄎亥;UTCDoc L2/24-269 1;U+5B69;kMandarin hái;10;4  
UTC-03570;FutureWS;;82.13;;𠄎毛準;UTCDoc L2/24-269 2;U+23BCD;kMandarin rǔn;14;4

## 12) L2/24-276: Proposal to add 8 ideographs used in Japanese shrines, manga, game, geba, game and food

**Comments:** The WG reviewed and discussed this proposal, and agreed that adding the eight ideographs to UAX #45 is reasonable, with an assigned status value of **FutureWS**. The WG noted that the proposed *kJapanese* property value for the third ideograph should be changed from が to か per the evidence, that the proposed *kJapanese* property value for the fourth ideograph should be changed from じん to ジン per the evidence, that the proposed *kJapanese* property values for the fifth and seventh ideographs should be changed from かざ to かぜ per the evidence, the IDS for the eighth ideograph should be 𪛗麥方 per the evidence, its *kJapanese* property value should be removed, and “WS2024-04636” should be added as its *kSimplifiedVariant* property value. The WG also noted that the fifth ideograph may be unifiable with U+322C4 𪛗, but agreed that it is premature to make such a determination.

322C4

𪛗 182".0

𪛗

VN-F0629

The ideographs, whose representative glyphs are shown below, can therefore be considered as candidates for inclusion in the UTC's submission for the next IRG working set:

# 𤇀 𤇁 𤇂 𤇃 𤇄 𤇅 𤇆 𤇇

**Recommendations:** The WG recommends to the UTC the following disposition ⇨

**Consensus:** Accept eight new U-source ideographs as UTC-03571 through UTC-03578 with a UAX #45 status value of FutureWS, based on document L2/24-276 (Lin), and as amended in Section 12 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Add eight new records to the UAX #45 USourceData.txt data file and their representative glyphs to USourceGlyphs.pdf, based on document L2/24-276, and as amended Section 12 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Convey to the author of document L2/24-276 the CJK & Unihan Working Group comments in Section 12 of document L2/24-227.

New:

UTC-03571; FutureWS;; 86.2;; 𤇀 火几; UTCDoc L2/24-276 1; kJapanese ホ; kSemanticVariant U+5E06; 3; 6

UTC-03572; FutureWS;; 64.4;; 𤇁 扌 厶 口; UTCDoc L2/24-276 2; kJapanese ム; 5; 7

UTC-03573; FutureWS;; 140.13;; 𤇂 𤇃 𤇄 麥 玉; UTCDoc L2/24-276 3; kJapanese か; kSemanticVariant U+26F06; 1; 17

UTC-03574; FutureWS;; 9.10;; 𤇅 神 人; UTCDoc L2/24-276 4; kJapanese ジン; 4; 12

UTC-03575; FutureWS;; 16.2;; 𤇆 几 丿; UTCDoc L2/24-276 5; kJapanese かせ; kSemanticVariant U+98A8 U+322C4; 4; 4

UTC-03576; FutureWS;; 149.4;; 𤇇 言 仑; UTCDoc L2/24-276 6; kJapanese ロ  
ン; kSemanticVariant U+8AD6; 3; 11

UTC-03577; FutureWS;; 4.1;; 𤇈 厂 乞; UTCDoc L2/24-276 7; kJapanese かせ; kSemanticVariant U+98A8 U+322C4; 5; 2

UTC-03578; FutureWS;; 199.4;; 𤇉 麥 方; UTCDoc L2/24-276 8; kSimplifiedVariant WS2024-04636; 4; 15

## 13) L2/24-278R: Proposal to add three characters used for foods in Xiapu County and Yilan County to UAX #45

**Comments:** The WG reviewed and discussed this proposal, and agreed that adding the three ideographs to UAX #45 is reasonable, with an assigned status value of **FutureWS**. The ideographs, whose representative glyphs are shown below, can therefore be considered as candidates for inclusion in the UTC's submission for the next IRG working set:

# 𤇊 𤇋 𤇌

**Recommendations:** The WG recommends to the UTC the following disposition ⇨

**Consensus:** Accept three new U-source ideographs as UTC-03579 through UTC-03581 with a UAX #45 status value of FutureWS, based on document L2/24-278R (Chan) and Section 13 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Add three new records to the UAX #45 USourceData.txt data file and their representative glyphs to USourceGlyphs.pdf, based on document L2/24-278R and Section 13 of document L2/25-009, for Unicode Version 17.0.

New:

UTC-03579;FutureWS;;119.7;;𠄎米金;UTCDoc L2/24-278R 1;kTraditionalVariant  
U+25F4B:kMandarin jiǎn:Xiapu keiŋ<sup>4</sup>2;3;13

UTC-03580;FutureWS;;130.15;;𠄎月賞;UTCDoc L2/24-278R 2;kMandarin shǎng:kCantonese  
soeng2;2;19

UTC-03581;FutureWS;;130.12;;𠄎月赏;UTCDoc L2/24-278R 3;kMandarin shǎng:kCantonese  
soeng2;2;16

## Other Documents

The three UTC documents in this section were reviewed and discussed by the WG, and for convenience, the following data file, which is a PDF attachment, includes the recommended Unihan database changes based on them:

- *Unihan-changes-20250103.txt*

The recommended Unihan database changes are also shown inline, immediately following the **Recommendations**.

### 14) L2/24-279: Proposal to Encode One Kana Ligature

**Comments:** The WG reviewed and discussed this proposal, and agreed that the proposed character name and properties, along with the proposed code point, looked good, and mirror those of the following two related characters that were encoded in Unicode Version 3.2 (2002), the first of which is the hiragana equivalent of the proposed character:

```
309F;HIRAGANA DIGRAPH YORI;Lo;0;L;<vertical> 3088 308A;;;N;;;;;  
30FF;KATAKANA DIGRAPH KOTO;Lo;0;L;<vertical> 30B3 30C8;;;N;;;;;
```

In addition, the following three related characters that were proposed in document [L2/24-150](#) were provisionally assigned during UTC Meeting #180 per [Consensus 180-C6](#):

```
U+1B123 HIRAGANA DIGRAPH KOTO  
U+1B124 KATAKANA DIGRAPH TOKI  
U+1B125 KATAKANA DIGRAPH TOTE
```

Japan has gone on record to be neutral on the matter of encoding such characters, and SEW is in favor of provisional assignment, so the WG therefore recommends provisional assignment with code point U+1B126 in the [Kana Extended-A](#) block.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Provisionally assign U+1B126 KATAKANA DIGRAPH YORI in the Kana Extended-A block, based on document L2/24-279 (Sim) and Section 14 of document L2/25-009.

**Action Item for Ken Whistler, RMG:** Update the Pipeline to add the provisionally assigned character U+1B126 KATAKANA DIGRAPH YORI, based on document L2/24-279 and Section 14 of document L2/25-009.



**Action Item for Ken Lunde, CJK:** Provide a font for U+1B126 KATAKANA DIGRAPH YORI to Michel Suignard and the Charts Working Group, based on document L2/24-279 and Section 14 of document L2/25-009.

**Action Item for Ken Lunde, CJK:** Prepare text for the Core Specification that describes U+1B126 KATAKANA DIGRAPH YORI, based on document L2/24-279 and Section 14 of document L2/25-009.

## 15) L2/22-223: Proposed Updates and Expansions of Unihan Numeric Fields

**Comments:** The WG originally reviewed and discussed this proposal prior to UTC Meeting #173, which resulted in the following update to the *kPrimaryNumeric* property of U+5146 兆 per [Consensus 173-C11](#) that added **1000000** as a second property value:

```
U+5146      kPrimaryNumeric      1000000 10000000000000
```

However, the *Unihan-changes-20221021.txt* data file that was attached to document [L2/22-247](#) specified the same property value order as recommended in Section 3.4 on page 5 of document L2/22-223, as shown below, which is not what is reflected in the current version of the Unihan database as shown above:

```
U+5146      kPrimaryNumeric      10000000000000 1000000
```

The issue is that the first property value should be the most common one per the description of the *kPrimaryNumeric* property in UAX #38, which should be **10000000000000** for U+5146 兆. The WG therefore recommends that the order of the property values simply be swapped to reflect that the first property value is the most common one.

Note that changing this *kPrimaryNumeric* property value will result in a change to Fields 1 and 3 of the derived *Numeric\_Value* property value of U+5146 in the UCD's *extracted/DerivedNumericValues.txt* data file, from the following:

```
5146          ; 1000000.0 ; ; 1000000
```

to the following:

```
5146          ; 10000000000000.0 ; ; 10000000000000
```

The latter property value was used in Unicode Versions 4.0 (2003) through 15.0 (2022). The former property value was introduced in Unicode Version 15.1 (2023). In other words, the property value will revert to what it was prior to Unicode Version 15.1.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to swap the order of the informative *kPrimaryNumeric* property values of U+5146, based on document L2/22-223 (Wáng & Chan) and Section 15 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Update the Unihan database to swap the order of the *kPrimaryNumeric* property values of U+5146, based on document L2/22-223 and Section 15 of document L2/25-009, for Unicode Version 17.0.

Current:

```
U+5146      kPrimaryNumeric      1000000 10000000000000
```

Adjusted:

U+5146

kPrimaryNumeric

1000000000000 1000000

## 16) L2/25-028: Proposal to Add VS3 for Sibe Quotation Marks

**Comments:** The WG reviewed and discussed this proposal, and agrees that the proposed names for the SVSes (*Standardized Variation Sequences*) are appropriate, and that the *Vertical\_Orientation* property values of **U+2018 LEFT SINGLE QUOTATION MARK**, **U+2019 RIGHT SINGLE QUOTATION MARK**, **U+201C LEFT DOUBLE QUOTATION MARK**, and **U+201D RIGHT DOUBLE QUOTATION MARK** should be changed from **R** to **Tr**. The WG therefore recommends that the four proposed SVSes be accepted for Unicode Version 17.0, along with the proposed *Vertical\_Orientation* property value changes. In addition, UAX #50 will need to be updated to modify Section 3.2.4, *Quotation Marks*, and to add the four quotation marks to Table 3 in Section 4. The WG additionally recommends that the China NB sanity-checks this proposal.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to add the following four standardized variation sequences, based on document L2/25-028 (Sim) and Section 16 of document L2/25-009, for Unicode Version 17.0:

2018 FE02; Sibe form; # LEFT SINGLE QUOTATION MARK

2019 FE02; Sibe form; # RIGHT SINGLE QUOTATION MARK

201C FE02; Sibe form; # LEFT DOUBLE QUOTATION MARK

201D FE02; Sibe form; # RIGHT DOUBLE QUOTATION MARK

**Consensus:** Accept the proposal to change the *Vertical\_Orientation* property values of U+2018 LEFT SINGLE QUOTATION MARK, U+2019 RIGHT SINGLE QUOTATION MARK, U+201C LEFT DOUBLE QUOTATION MARK, and U+201D RIGHT DOUBLE QUOTATION MARK from **R** to **Tr**, based on document L2/25-028 (Sim) and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Consensus:** Authorize a Proposed Update of UAX #50, based on document L2/25-028 (Sim) and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Whistler, RMG:** Update the Pipeline page with the four standardized variation sequences, based on document L2/25-028 and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Markus Scherer, PAG:** Add the four variation sequences to *StandardizedVariants.txt*, based on document L2/25-028 and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, Charts:** Add the four variation sequences and their representative glyphs to the code chart for the General Punctuation block, based on document L2/25-028 and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Prepare a Proposed Update for UAX #50 to adjust the text of Section 3.2.4 (*Quotation Marks*) and to add U+2018 LEFT SINGLE QUOTATION MARK, U+2019 RIGHT SINGLE QUOTATION MARK, U+201C LEFT DOUBLE QUOTATION MARK, and U+201D RIGHT DOUBLE QUOTATION MARK to Table 3 in Section 4, based on document L2/25-028 and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michelle Perham, UTC:** Publish the PRI for the Proposed Update of UAX #50 to close on 2025-04-02, based on document L2/25-028 and Section 16 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Contact the China NB to solicit feedback on document L2/25-028, based on Section 16 of document L2/25-009.

## IRG Documents

The three IRG documents in this section were reviewed and discussed by the WG, and for convenience, the following data file, which is a PDF attachment, includes all of the recommended Unihan database changes based on them:

- *Unihan\_IRGSources-changes-20250103.txt*

With the exception of the large number of *kIRG\_GSource* property value changes that are proposed in document IRG N2689, the recommended Unihan database changes are also shown inline, following the **Recommendations**.

### 17) IRG N2689: Update G-Source references values for 1,685 characters

**Comments:** The WG reviewed and discussed this proposal, and agreed that the proposed *kIRG\_GSource* property value changes are appropriate. Ken Lunde temporarily updated the Unihan database, along with the syntax of the *kIRG\_GSource* property, to confirm that all of the property value changes properly validate. In addition to updating the Unihan database proper, the syntax of the *kIRG\_GSource* property also needs to be updated accordingly, specifically to update the syntax of the **G4K**, **GBK**, **GCH**, **GCY**, and **GHC** source prefixes, and to add **GCESI** as a new source prefix. The WG therefore recommends that these *kIRG\_GSource* property value changes be accepted for Unicode Version 17.0.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to change 1,685 normative *kIRG\_GSource* property values, based on document IRG N2689 (China) and Section 17 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, CJK:** Change the 1,685 *kIRG\_GSource* property values in ISO/IEC 10646's CJKSrc.txt data file, based on document IRG N2689 and Section 17 of document L2/25-009, and provide to Ken Lunde an updated Unihan17.txt data file, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Use the updated Unihan17.txt data file to update the Unihan database, based on document IRG N2689 and Section 17 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Update PRI #508 (aka Proposed Update UAX #38) to adjust the syntax of the *kIRG\_GSource* property's G4K, GBK, GCH, GCY, and GHC source prefixes, and to add GCESI as a new source prefix, based on document IRG N2689 and Section 17 of document L2/25-009, for Unicode Version 17.0.

## 18) IRG N2775: Update of V-Source Representative Glyph in Extension J

**Comments:** The WG reviewed and discussed this proposal, and agreed that the proposed V-source representative glyph change that affects one ideograph in the new Extension J block is appropriate. Based on the current draft of the Extension J block in document [IRG N2781](#), the corresponding code point is U+33368 (aka V0-482F).

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to change the V-source representative glyph of one ideograph (source reference V0-482F) in the CJK Unified Ideographs Extension J block, based on document IRG N2775 (Vietnam) and Section 18 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, Charts:** Apply the V-source representative glyph change for one ideograph (source reference V0-482F) to the code chart for the CJK Unified Ideographs Extension J block with an updated TrueType font provided by Vietnam, based on document IRG N2775 and Section 18 of document L2/25-009, for Unicode Version 17.0.

## 19) IRG N2776: Update of V-Source Representative Glyphs

**Comments:** The WG reviewed and discussed this proposal, and agreed that the proposed V-source representative glyph changes that affect seven ideographs in the [Extension B](#) block and one ideograph in the [Extension C](#) block, along with the proposed *kRSUnicode* and *kTotalStrokes* property values changes that affect three ideographs in the Extension B block, are appropriate.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**Consensus:** Accept the proposal to change the representative glyphs of seven V-source ideographs in the CJK Unified Ideographs Extension B block and one ideograph in the CJK Unified Ideographs Extension C block, based on document IRG N2776 (Vietnam) and Section 19 of document L2/25-009, for Unicode Version 17.0.

**Consensus:** Accept the proposal to change the informative *kRSUnicode* and *kTotalStrokes* property values of three V-source ideographs in the CJK Unified Ideographs Extension B block, based on document IRG N2776 (Vietnam) and Section 19 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, Charts:** Apply the V-source representative glyph changes to the code charts for the CJK Unified Ideographs Extension B and CJK Unified Ideographs Extension C blocks with an updated TrueType font provided by Vietnam, based on document IRG N2776 and Section 19 of document L2/25-009, for Unicode Version 17.0.

**Action Item for Michel Suignard, CJK:** Change the *kRSUnicode* and *kTotalStrokes* property values in ISO/IEC 10646's CJKSrc.txt data file, based on document IRG N2776 and Section 19 of document L2/25-009, and provide to Ken Lunde an updated Unihan17.txt data file, for Unicode Version 17.0.

**Action Item for Ken Lunde, CJK:** Use the updated Unihan17.txt data file to update the Unihan database, based on document IRG N2776 and Section 19 of document L2/25-009, for Unicode Version 17.0.

Current:

U+232F0	kRSUnicode	72.14
U+232F0	kTotalStrokes	18
U+257CC	kRSUnicode	115.7
U+257CC	kTotalStrokes	12
U+291AC	kRSUnicode	173.15
U+291AC	kTotalStrokes	23

Adjusted:

U+232F0	kRSUnicode	<b>182' '.15</b>
U+232F0	kTotalStrokes	<b>19</b>
U+257CC	kRSUnicode	<b>115.8</b>
U+257CC	kTotalStrokes	<b>13</b>
U+291AC	kRSUnicode	<b>173.14</b>
U+291AC	kTotalStrokes	<b>22</b>

## Other Topics

### 20) IRG Document Migration Status

**Comments:** As of 2025-01-03, the files associated with a total of 1,330 unique IRG document numbers have been migrated to the new [IRG Document Register](#) that is hosted by the Unicode Consortium. All documents for IRG Meeting #31 and later—document IRG N1489 and higher—have been migrated. This figure represents approximately 48% of the unique IRG document numbers.

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**No UTC action is required.**

### 21) Updated Provisional Unihan Database Properties

**Comments:** The purpose of this section is to provide a synopsis of adjustments that were made to provisional Unihan database properties by Ken Lunde since the UTC #181 meeting, which are shown in the table below:

Property	Additions	Removals	Changes	Notes
kPhonetic	1,330	0	58	Fine-tuning of property values with stakeholder via pull requests in the open source <a href="#">Unihan Database</a> project
kStrange	1	0	0	

**Recommendations:** The WG recommends to the UTC the following disposition ⇒

**No UTC action is required.**

That is all.