

TONES IN THE CUOI LANGUAGE OF TAN KI DISTRICT IN NGHE AN PROVINCE, VIETNAM

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Abstract

This paper gives an overview of the phonetic characteristics of the tone system of the Cuoi language, a Vietic language spoken in Nghe An province in Vietnam.

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1 Introduction

Among the ethnic groups in Vietnam, the Cuoi people are considered to be a local group of the Tho¹ ethnic group (together with the local group Poọng, Dan Lai - Ly Ha, Thuong, Keo, etc.). ‘Cuối’ [kwoj²⁴] or ‘Cuoi’ [kwoj^{31?}] is the name of the Cuoi people. In their language, ‘Cuoi’ means ‘people’. As of 2017, there were about 6,500 people living in Tan Hop commune, Tan Ky district, Quang Tien town, Thai Hoa town (previously belonging to Rach village, Lo and Nghia Quang villages, Nghia Dan district) in Nghe An province. The Cuoi people of Tan Hop commune, Tan Ky district are also called the Cuoi Cham (or Cuoi Te). This name is used to distinguish this group from the Cuoi in Thai Hoa town, the Cuoi Dep (or Cuoi Nep).

In Tan Hop Commune, there are 3,703 Cuoi distributed in several villages: Tan Lap (previously known as Ke Su) with 718 Cuoi people, Yen Hoa (Ke Song) with 723, Trung Do (Ba Ngoai) with 859, Nghia Thanh (Ba Trong) with 522, Hong Son (Ke Va) with 557, Tan Huong with 241, and Dong Ha with 5. In the township of Thai Hoa, the Cuoi population consists of 2,774 inhabitants, including 1,685 in Quang Tien ward, 1,089 in Quang Phong ward.

Regarding language, the Cuoi language is a distinct member of the Tum-Poong group in the Vietic branch of Austroasiatic. Cuoi is a monosyllabic language, having only monosyllabic roots, not sesquisyllabic roots as in other more conservative Vietic languages, such as the Chut languages. Syllables have a special status, phonetically encompassing both the morpheme and the singular word. Like Vietnamese, Muong and many other languages in South East Asia, the syllable in Cuoi has a rigid phonological structure. The components that make up the syllable include the head, rhyme and tone. Syllable initials may be single consonants or clusters. A rhyme can be either a vowel (monophthong or diphthong) or a combination of vowel and final consonant.

This article will present the phonetic and phonological characteristics of the Cuoi tone system in Tan Hop commune, Tan Ky district.

¹ In Vietnamese, the word *Thổ* means ‘indigenous person’. In Vietnam, *Thổ* is used in reference to two different groups. First, Tho is the name of language belonging to the Vietic language group in Nghe An for the Tho ethnic group covered in this article. The other function of Tho is as the unofficial name for the Tay people in Cao Bang, Lang Son, Ha Giang, parts of Thai people and parts of Ao Ta Muong in Hoa Binh province. bộ phận người Thái và bộ phận người Mường Ao Tá ở tỉnh Hòa Bình.

2 Describing the tone system of Cuoi in Tan Ky, Nghe An

According to Ferlus (1994), Cuoi Cham in Tan Hop, Tan Ky, Nghe An province has 8 tones, in which 6 tones end in vowels or sonorants /w, j, m, n, ŋ, l/, while two tones occur with the final stops /p, t, k/. As for the history of these, Cuoi tones are divided into two series: (a) a high series of tones a1, a3, a5, and a7, corresponding to Vietnamese tones a, á, â, át of the tone categories A1, B1, C1 and D1; and (b) the low series consisting of tones a2, a4, a6, and a8, corresponding to the Vietnamese à, ă, ã, at of the tone categories A2, B2, C2, and D2. However, Ferlus did not describe phonetic and phonological characteristics of each tone in this study.

In 2001, Ferlus published materials on the Tho language of Lo Village of Nghia Dan district, Nghe An province. At present, the Tho group residing in Thai Hoa township in Nghia Dan believe that they originally lived in Lo village, Nghia Quang commune, Nghia Dan district. They identify themselves Cuoi Dep (or Cuoi Nep) people, distinguishing themselves from the Cuoi Cham (Cuoi Te) in Tan Hop commune, Tan Ky district.

According to Ferlus, historically, the Tho language has eight tones with two series: a series of high tones 1, 3, 5, and 7 and a series of low tones 2, 4, 6, and 8. In its modern phonology, the Tho language has seven tones due to the merging of tones 5 and 6. In terms of height, in contrast with the historical origins of the tones, as described above by Ferlus (i.e. tones 1, 3, 5, and 7 are high tones, and tones 2, 4, and 6 are low tones), in the modern system, tones 1, 3, and 7 are, conversely, low tones or have low onsets, while tones 2, 4, and 8 are high tones or have high onsets. Tones 5 and 6 are glottalized. The tones of Tho have the approximate contours and characteristics as shown in Table 1.

Table 1: *Tone contours in Cuoi (Ferlus 2001)*

1 [22]	3[24]	5 [33ʔ]	7 [24]
2 [55]	4 [53]	6 [33ʔ]	8 [53]

While our study shows similarities to Ferlus’s analysis, there are some slight differences shown in Table 4 of Section 3.

2.1. Materials and methods of research

The tone system described below is based on a document in a word list of 4,057 separate words (syllables) for the Cuoi language, read aloud by a language consultant, Nguyen Ba Chung (male), 57 years old, a Cuoi person from Tan Hop commune, Tan Ky district, Nghe An. This list was phonetically transcribed and recorded at the fieldwork site in August of 2017 using a Zoom H2 recorder, processed in 22,050 Hz, 16-bit, mono format as a Wav. file. The phonetic and phonemic descriptions of the characteristics of tones are based on auditory perceptions combined with the results of the acoustic statistical analysis of the Cuoi words recorded by the voice analysis programs PRAAT, SA, and WINCECIL. The height (F0) of tones was measured in Semitones and is defined by a 5-pitch-level scale, in which 5 is the highest pitch, 4 is relatively high, 3 is medium, 2 is slightly low, and 1 is the lowest. The time of pronunciation (length) is measured in milliseconds.

2.2. The tone system of Cuoi in Tan Ki

2.2.1. Phonetic characteristics

The tone system of Cuoi in Tan Ki consists of seven tones, five of which appear in sonorant-final syllables (open syllables or half syllables ending in /w/ or /j/) or ‘half-closed’ syllables with final nasal consonants /m/, /n/, or /ŋ/), and two of which appear in syllables with final stops /p/, /t/, or /k/. Following the tradition of research in tones of the Vietic language group, Cuoi tones can be divided into Categories A, B, C, and D; Categories A, B, and C occur in syllables with sonorant codas.

2.2.1.1 Tones in syllables ending in sonorants

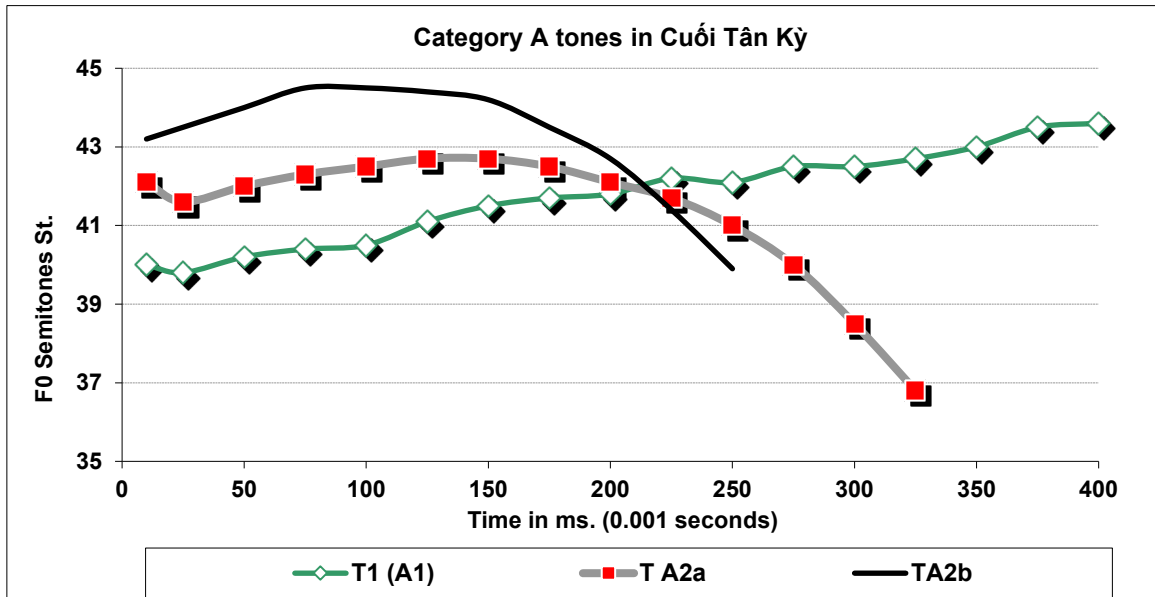
In syllables with sonorant codas, there are five tones distinguished by the characteristics of pitch and voice quality.

Characteristics of Height: Category A Tones

The first tone (A1): The first tone starts from a mid-level 3, rises, and ends at a high level 5, and is thus marked [35], for example, [hal³⁵] ‘two’, [ka³⁵] ‘chicken’, [kɔn³⁵] ‘child’, [pul³⁵] ‘lime (mineral)’, and [k^hãŋ³⁵] ‘tree’.

The second tone with two variants (A2a) and (A2b): Variation (A2a): The two variations (A2a) begin at a high level 5, remain level before falling, and end at mid-level 3, and is marked [53]. This tone occurs in syllables with open vowels [a], [ɔ], or [ɒ], for example, [ka⁵³] ‘thorn’ or [na⁵³] ‘house’. Variation (A2b): This begins at a relatively high level 4, falls, and ends at the lowest pitch 1, and it marked as 41. Historically, the A2a tone and the A2b tone are two variants of the A2 tone. Variation A2a occurs in open vowels [a], [ɔ], or [ɒ]; A2b occurs with any vowel, for example, [pul⁴¹] ‘mud’ and [kon⁴¹] ‘hill’.

Figure 1: F0 graphs of category A tones (A1, A2a and A2b) in Cuoi

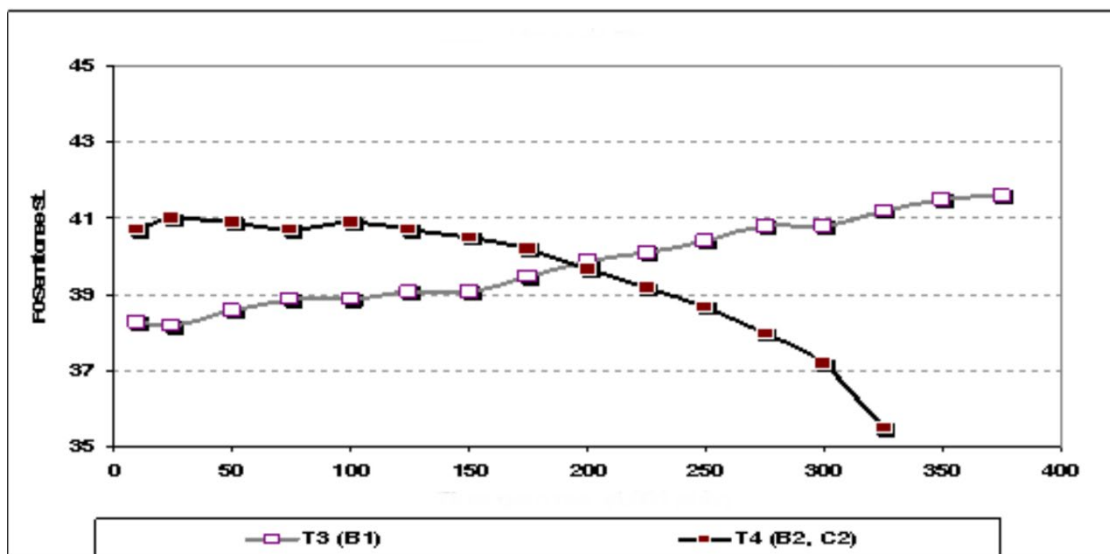


Category B Tones

3rd tone (B1): This tone begins with a relatively low pitch 2, rises, and ends at relatively high pitch 4, marked [24], for example, [ka²⁴] ‘fish’, [ci²⁴] ‘dog’, [tul²⁴] ‘dark’, [ple²⁴] ‘fruit’, and [khal²⁴] ‘tiger’.

4th tone (B2, C2): begins at a mid-level (3) and drops to a low pitch (1), with final glottalization, and is marked [312], for example [ɲur³¹²] ‘horse’, [pul³¹²] ‘dust’, [cal³¹²] ‘run’, [mul³¹²] ‘nose’, and [lal³¹²] ‘tongue’. Figure 2 shows F0 graphs of Category B tones.

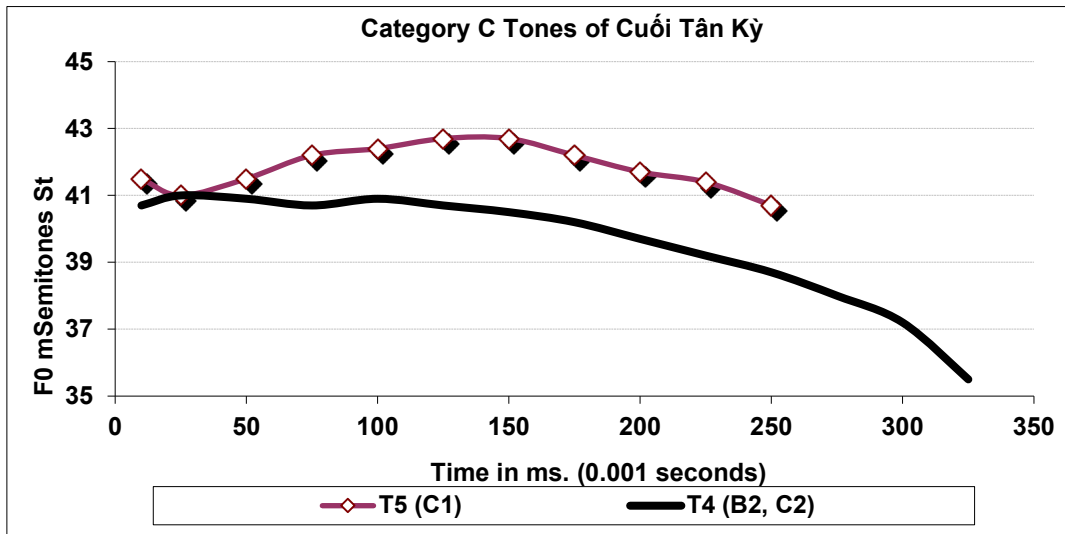
Figure 2: F0 graphs of Category B tones in Cuoi



Category C Tones

The 5th Tone (C1) begins and ends at a high pitch level 4, ending with glottal stop, marked as [442]. For example, [pal⁴⁴²] ‘cloth’ and [jal⁴⁴²] ‘jump’. Figure 3 shows the F0 of tones in group C: the fourth tone (C2 / B2) and the fifth tone (C1).

Figure 3: F0 graphs of Category C tones



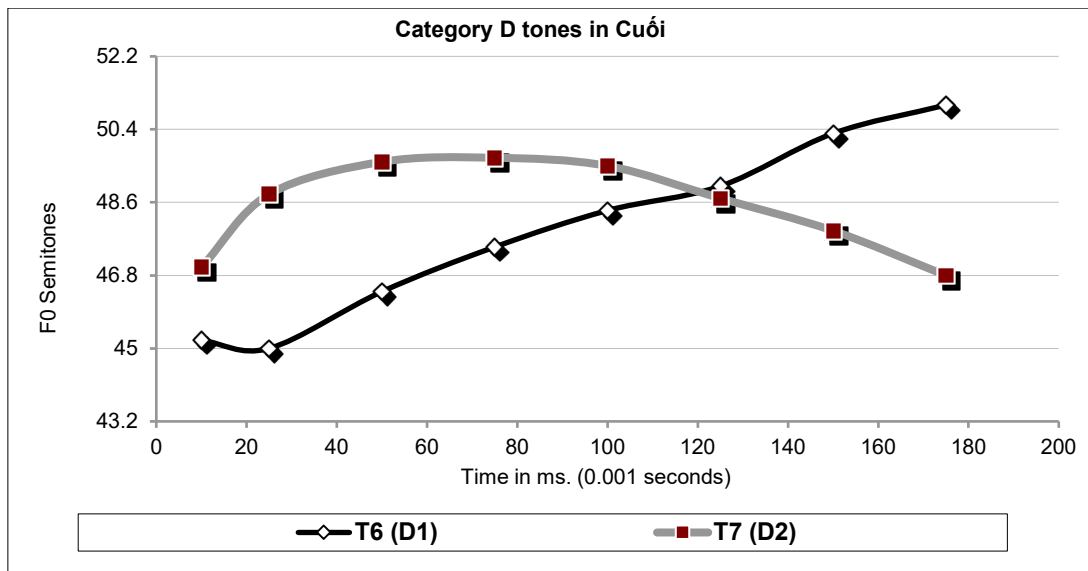
Category D Tones

The two category D tones occur in syllables ending in voiceless stops. They are described as follows.

- Tone 6 (D1): This tone begins at a level 2, rises to the highest level 4, and is marked as [24], for example, [dāk²⁴] ‘water’ and /k^hrap²⁴/ ‘wax’.
- The 7th tone (D2): This begins at a relatively high point 4, falls to a mid-level 3, and is marked [43], for example, [mɔt⁴³] ‘one’ and [mɔt⁴³] ‘wood boring insect’.

Figure 4 shows the graphs of F0 of category D tones.

Figure 4: Graph of F0 of category D tones



Characteristics of voicing

The fourth tone (B2, C2) and the fifth tone (C1) end in a final glottal stop. Figure 5 is the form of a wave form and spectrum of the fifth tone with a glottalized final stop [ʔ].

Figure 5: The syllable /kul³¹²/ ‘pig’

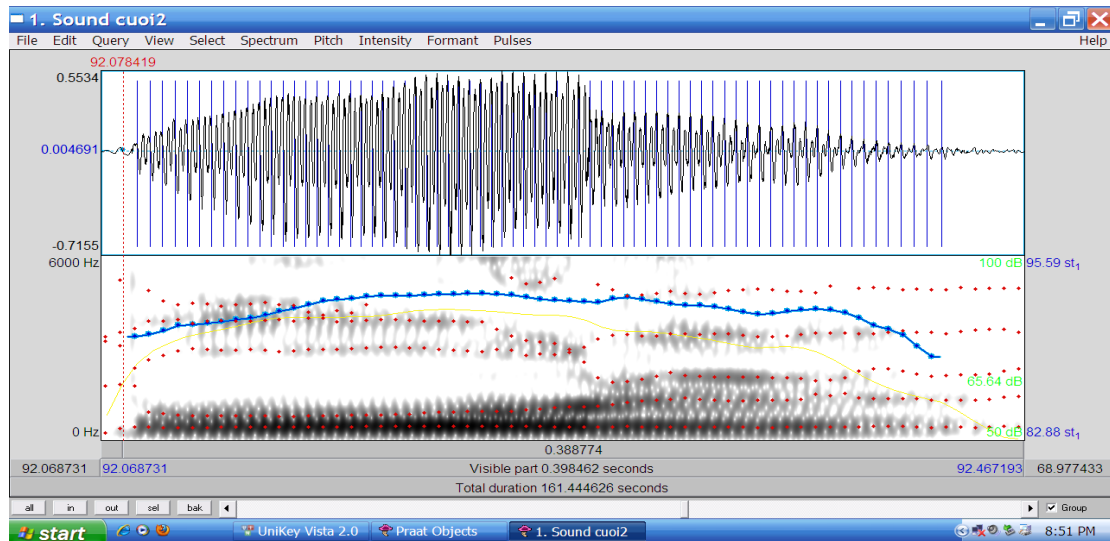
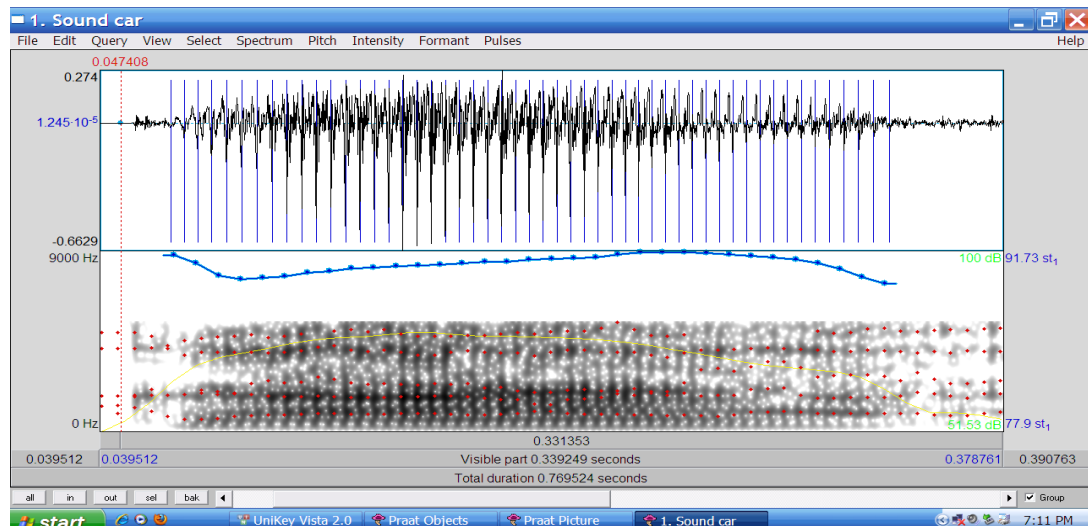


Figure 6: the syllable /ka^{44?}/ ‘fish’



2.2.2. Phonetic characteristics of Cuoi tones

There are two phonological explanations for the tone system of Cuoi of Tan Ki.

Explanation 1: The tone system of Cuoi in Tan Ki consists of seven tones, of which five occur in syllables with final sonorants, and two are in syllables with voiceless stops. In this way, the tones D1 and D2 are independent tones. Each item is identified by the phonetic criteria in Table 2.

Table 2: First explanation of phonetic criteria of Cuoi tones

Toneme (T)	Phonological Traits
T. 1 (A 1)	high rising
T. 2 (A2a, A2 b)	falling
T. 3 (B1)	low rising
T. 4 (B2, C2)	falling +?
T. 5 (C1)	level +?
T. 6 (D1)	rising + voiceless stop (-p, -t, -k)
T. 7 (D2)	falling + voiceless stop (-p, -t, -k)

This description is associated with the history of the formation and development of Cuoi, similar to Ferlus's description of Cuoi Cham and of Tho in Lo village.

Explanation 2: The sound system tone consists of 5 tones, in which tone D1 is a variant of the tone B1, and D2 is a variant of tone B2/C2. The tones are identified by the phonetic criteria in Table 3.

Table 3: *Second explanation of phonetic criteria of Cuoi tones*

Tonemes (T)	Phonological Characteristics
T1 A1	High rising
T2 A2	falling
T3 B1, D1	low rising
T4 B2/C2 , D2	falling + ²
T5 C1	level + ²

3. Historical aspects of Cuoi tones

According to Haudricourt (1954), the formation and development of the Vietnamese tone system involves two processes.

1. The process of the loss of codas /-ʔ/, /-h, -s / led to a phonological opposition of tone contour.
2. Correlating with onset voice quality, the process of devoicing of initial consonants led to a phonological opposition of high and low tones .

This theory can be applied to Vietic languages, including Cuoi. The tone system of Cuoi can be described and summarized in Table 4.

Table 4: *Summary of the tone system of Cuoi*

	*A (Final sonorants)	*B (Final *-ʔ)	*C (Final *h, *s)	*D (Final voiceless stops)
*Voiceless initials	[35]	[24]	[44 ²]	[35]
*Voiced initials	[41 / 53]		[31 ²]	[43]

The process of formation and development of the tones of Cuoi of Tan Ky can be summarized as follows. In addition, there is the process of merging tones: B2 = C2; B1 = D1; B2 / C2 = D2.

- Category A: A1> <A2
- Category B: B1> <B2
- Category C: C1> <C2
- Category D: D1> <D2

Based on this, we can provide the following comments.

- The development of tones in Cuoi is different from the process in the Tho language. As described by Ferlus, in Tho of Lo village, the process involved a merger of category C tones: C1 with C2.
- The development of tones in Cuoi is similar to the process in most subdialects, dialects and subdialects in Muong, and Vietnamese dialects in Nghe Tinh. As in Cuoi of Tan Ky, in the development of tone of the majority of Muong dialects and Vietnamese dialects in Nghe Tinh, the merger of low tone categories B and C have occurred.

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Appendix: 100 Words of Cui

No.	English	Cui	Vietnamese
1.	human, person	kuɽɽj ^{31ʔ}	người
2.	head	klok ³¹	đầu
3.	eye	măt ³¹	mắt
4.	nose	mul ^{31ʔ}	mũi
5.	ear	saj ³⁵	tai
6.	mouth	məm ³⁵	miệng
7.	tongue	lɔl ^{31ʔ}	lưỡi
8.	tooth	neɲ ³⁵	răng
9.	neck	kɔ ^{44ʔ}	cổ
10.	knee	klok ³¹ kʔl ²⁴	đầu gối
11.	foot	baɲ ²⁴ kãɲ ^{44ʔ}	bàn chân
12.	nail	săm ³⁵	móng
13.	belly	dul ²⁴	bụng
14.	skin	k ^h ʂɔt ²⁴	da
15.	hair (<i>on the head</i>)	sũk ²⁴	tóc
16.	heart	tim ³⁵	tim
17.	liver	lɔm ³⁵	gan
18.	blood	măw ²⁴	máu
19.	flesh	sit ³¹	thịt

20.	sun	mă ³¹ blɔ̃j ⁵³	mặt trời
21.	moon	plɔ̃j ³⁵	mặt trăng
22.	fire	ku ^{31?}	lửa
23.	ashes	plɔ̃ ³⁵ // bun ³⁵	tro
24.	smoke	k ^h ɔ̃j ²⁴	khói
25.	burn <i>vi.</i>	că ²⁴	cháy
26.	cloud	mɔ̃l ³⁵	mây
27.	rain	k ^h ʂa ³¹ ma ³⁵	cơn mưa
28.	cold	klẵj ³⁵	lạnh
29.	dry (<i>weather</i>)	k ^h ɔ̃ ³⁵	khô
30.	mountain	p ^h ʂɔ̃w ²⁴	núi
31.	water	da ²⁴	nước
32.	sand	k ^h ʂa ³⁵	cát
33.	stone <i>n.</i>	ta ²⁴	đá
34.	round	klɔ̃n ⁵³	tròn
35.	night	lɔ̃n ⁵³ tem ³⁵	ban đêm
36.	dog	cɔ̃ ²⁴	chó
37.	horn	k ^h ʂi ⁵³	sừng
38.	bird	cim ³⁵	chim
39.	feather	sũk ²⁴	lông
40.	egg	klɔ̃j ²⁴	trứng
41.	fish <i>n.</i>	ka ²⁴	cá
42.	louse (<i>head</i>)	ci ²⁴	chấy
43.	bite <i>v.</i>	kă ^m ^{31?}	cắn
44.	tree	kɔ̃l ³⁵	cây
45.	bark (<i>of tree</i>)	pɔ̃ ^{44?} kɔ̃l ³⁵	vỏ (<i>cây</i>)
46.	root	le ^l ^{31?}	rễ
47.	leaf	la ²⁴ kɔ̃l ³⁵	lá cây
48.	stone <i>n. (of fruit)</i>	he ^k ³¹	hạt (~ <i>quả</i>)
49.	man	k ^h ʂũj ³⁵ ʔɔ̃j ³⁵	đàn ông
50.	woman	ru ⁵³ mu ^{31?}	đàn bà
51.	white	klẵj ²⁴	trắng
52.	black	zɔ̃m ³⁵	đen
53.	green, blue	sej ³⁵	xanh
54.	yellow	măw ⁵³ ɲe ^{31?} // ɲel ^{31?}	vàng <i>tt.</i>
55.	large, big	bew ^{31?}	lớn, to

56.	small, little, insignificant	det ²⁴	nhỏ, bé
57.	long	zon ³⁵	dài
58.	new	bɤj ²⁴	mới
59.	one	mot ³¹	một
60.	two	hal ³⁵	hai
61.	much, many	ɲew	nhiều
62.	first person singular: I, me, my, mine	hɤw ³⁵	tôi
63.	you	mi ³⁵	mày
64.	we (<i>excl.</i>)	mɤ ²⁴ ca ³⁵	chúng tôi
65.	who?	ʔe	ai
66.	what?	ke ²⁴ ci ³⁵	cái gì
67.	all (<i>out of</i>)	ka ^{44ʔ} het ²⁴	tất cả
68.	road, way	toŋ ⁵³ ti ³⁵	đường (đi)
69.	eat v.	ʔăn	ăn
70.	drink v.	ɲo ^ʔ	uống
71.	sleep v.	tǎj ^{44ʔ}	ngủ
72.	listen v.	ŋe	nghe
73.	see, perceive	co ^{31ʔ}	thấy
74.	sit v.	ŋoj	ngồi
75.	stand	tuŋ ^{31ʔ}	đứng
76.	lie v.	nǎm ⁵³	nằm
77.	know v., be able	hɤj ³⁵	biết, có thể (~ làm, ~ ăn, ~ nói)
78.	say v., speak v.	meŋ ^{31ʔ}	nói
79.	give v.	cɤ ³⁵	cho
80.	swim v.	pɤj ³⁵	bơi
81.	fly v.	pǎl ³⁵	bay
82.	come v., arrive v., reach v.	teŋ ²⁴	đến
83.	kill v.	ziet ²⁴	giết
84.	star	k ^h raw ³⁵	sao
85.	name	ten ³⁵	tên [gọi]
86.	breast (<i>of woman</i>)	ʔu	vú
87.	bone	suɤŋ ³⁵	xương
88.	die v.	ce ²⁴	chết
89.	not	hp ^{31ʔ}	không
90.	warm oneself	ʔɤ kul ^ʔ	sưởi (bếp)
91.	go on foot / walk	tí ⁵³ bo ^{31ʔ}	đi bộ

92.	this	ni ³⁵	này
93.	that	kie ²⁴	đó tt.
94.	earth, land	tɣ̃t ²⁴	[quả, trái] đất
95.	fat (<i>grease</i>) <i>n.</i>	mɣ ^{44?}	mỡ dt.
96.	good	tot ²⁴	tốt
97.	hand	paŋ ²⁴ si ³⁵	bàn tay
98.	some	ke ²⁴ ci ³⁵ tɣ ²⁴	cái gì đó
99.	tail	tɔj ⁵³	đuôi
100.	claw	sẵm ³⁵	móng
101	full	plẵm ^{44?}	đầy