

Chinese (Mandarin) consonants, IPA

	Bilabial		Labio-dental		Denti-alveolar		Retroflex		Alveolo-palatal		Velar		Uvular	
Plosive	p				t						k			
Aspirated plosive	p ^h				t ^h						k ^h			
Affricate					ts		ʈʂ		tɕ					
Aspirated affricate					ts ^h		ʈʂ ^h		tɕ ^h					
Fricative	ɸ		f		s		ʂ	ʐ	ɕ		x			
Nasal		m				n						ŋ		[ɴ]
Approximant		ɥ	w					[ɻ]		j				
Lateral approximant						l								

- Where symbols appear in pairs, the one to the right represents a voiced consonant.
- Where symbols appear singly, they are placed to the left within their column if they represent a voiceless consonant, and to the right if they represent voiced.
- Symbols enclosed in brackets represent non-phonemic consonants.
- Blacked-out cells indicate phones judged to be impossible.
- [w] represents a labial **velar** approximant; [ɥ] represents a labial **palatal** approximant.
- Phones in the denti-alveolar column are laminar alveolars, pronounced with the tongue tip behind the lower front teeth (similar to the alveolo-palatals).
- The retroflex fricative [ʐ] and approximant [ɻ] are both realizations of the “R” phoneme. The choice of [ʐ] to represent the phoneme is arbitrary.
- The velar nasal [ŋ] is sometimes pronounced farther back, as a uvular nasal: [ɴ].

Chinese (Mandarin) consonants, Pinyin

	Bilabial		Labio-dental		Denti-alveolar		Retroflex		Alveolo-palatal		Velar		Uvular	
Plosive	b				d						g			
Aspirated plosive	p				t						k			
Affricate					z		zh		j					
Aspirated affricate					c		ch		q					
Fricative	(f)		f		s		sh	r	x		h			
Nasal		m				n					ng		(ng)	
Approximant		yu	w/u					(r)		y				
Lateral approximant						l								

- Symbols enclosed in parentheses represent non-phonemic consonants.

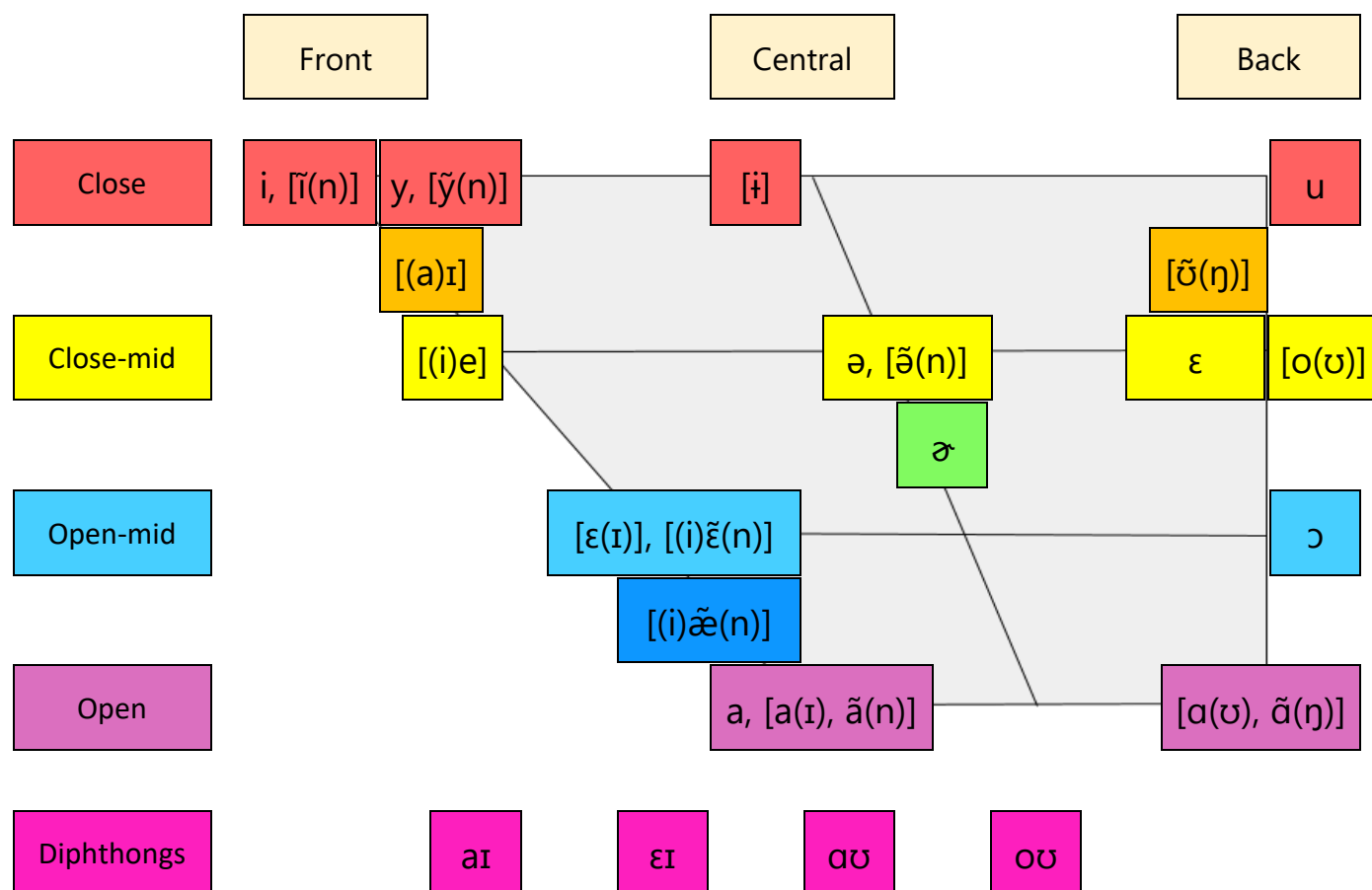
Chinese (Mandarin) consonants, Zhuyin

	Bilabial		Labio-dental		Denti-alveolar		Retroflex		Alveolo-palatal		Velar		Uvular	
Plosive	ㄅ				ㄆ						ㄎ			
Aspirated plosive	ㄆ				ㄆ						ㄎ			
Affricate					ㄗ		ㄘ		ㄑ					
Aspirated affricate					ㄗ		ㄘ		ㄑ					
Fricative	(ㄈ)		ㄈ		ㄌ		ㄎ	ㄎ	ㄑ		ㄎ			
Nasal		ㄇ				ㄋ					ㄍ		(ㄍ)	
Approximant		ㄣ	ㄣ				(ㄣ)		ㄣ					
Lateral approximant						ㄌ								

- Symbols enclosed in parentheses represent non-phonemic consonants.



Chinese (Mandarin) vowels, IPA

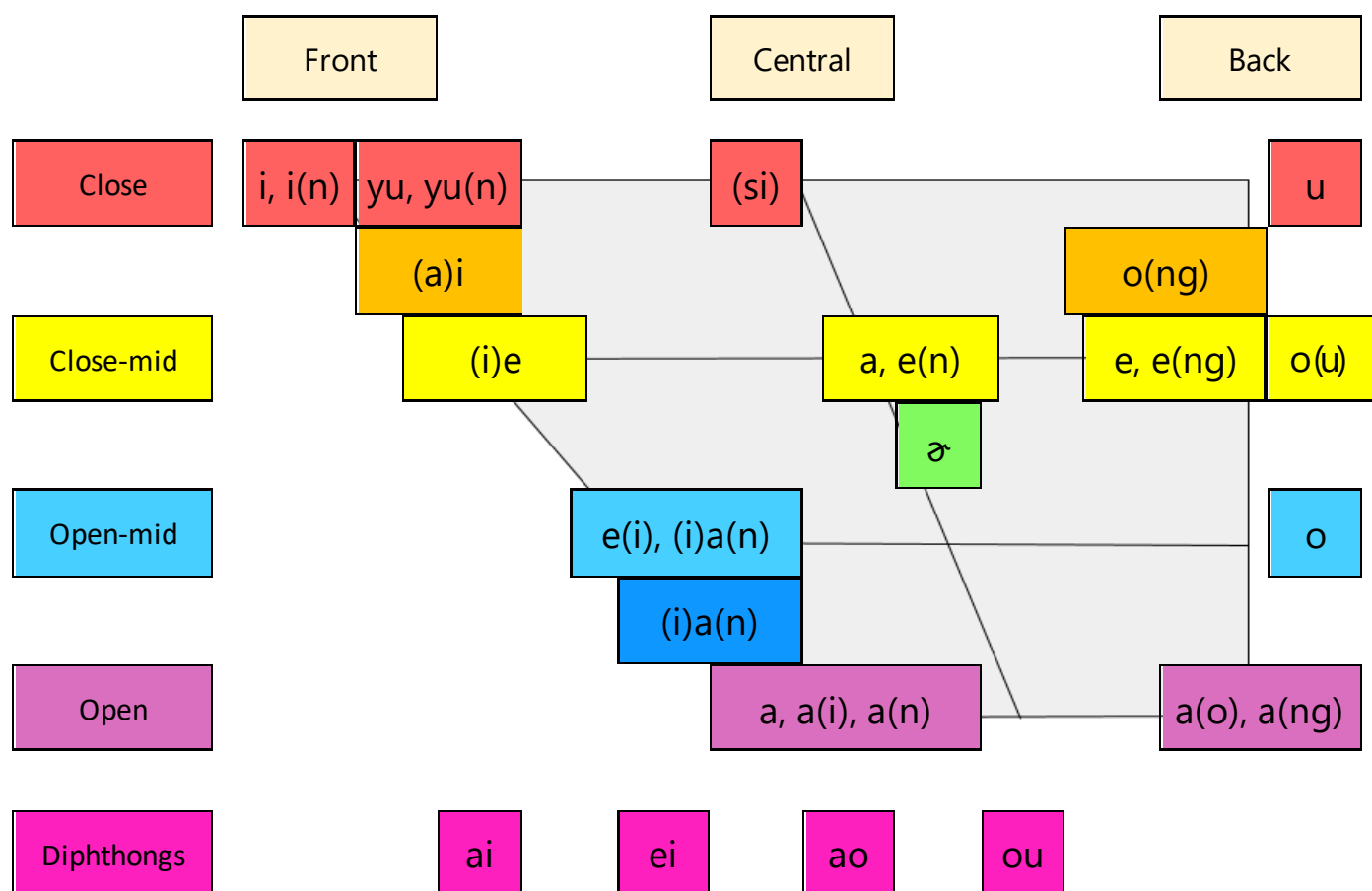


- Where symbols appear in pairs, the one to the right represents a rounded vowel.
- Where symbols appear singly, the front vowels and [ɑ] are unrounded; the close and close-mid back vowels are open.

- Allophones of /i/: [i, ĭ(n), iǎ(ŋ), (e)ɪ, (a)ɪ].
- Allophones of /u/: [u, uǎ(n), õ(ŋ)].
- Allophones of /ɤ/: [ɤ, ɤ(ŋ), ǎ(ŋ), (i)e].
- Allophones of /a/: [a, a(ɪ), ǎ(n), ɑ(ʊ), ǎ(ŋ), (i)ǎ̃(n), (i)ě(n)].



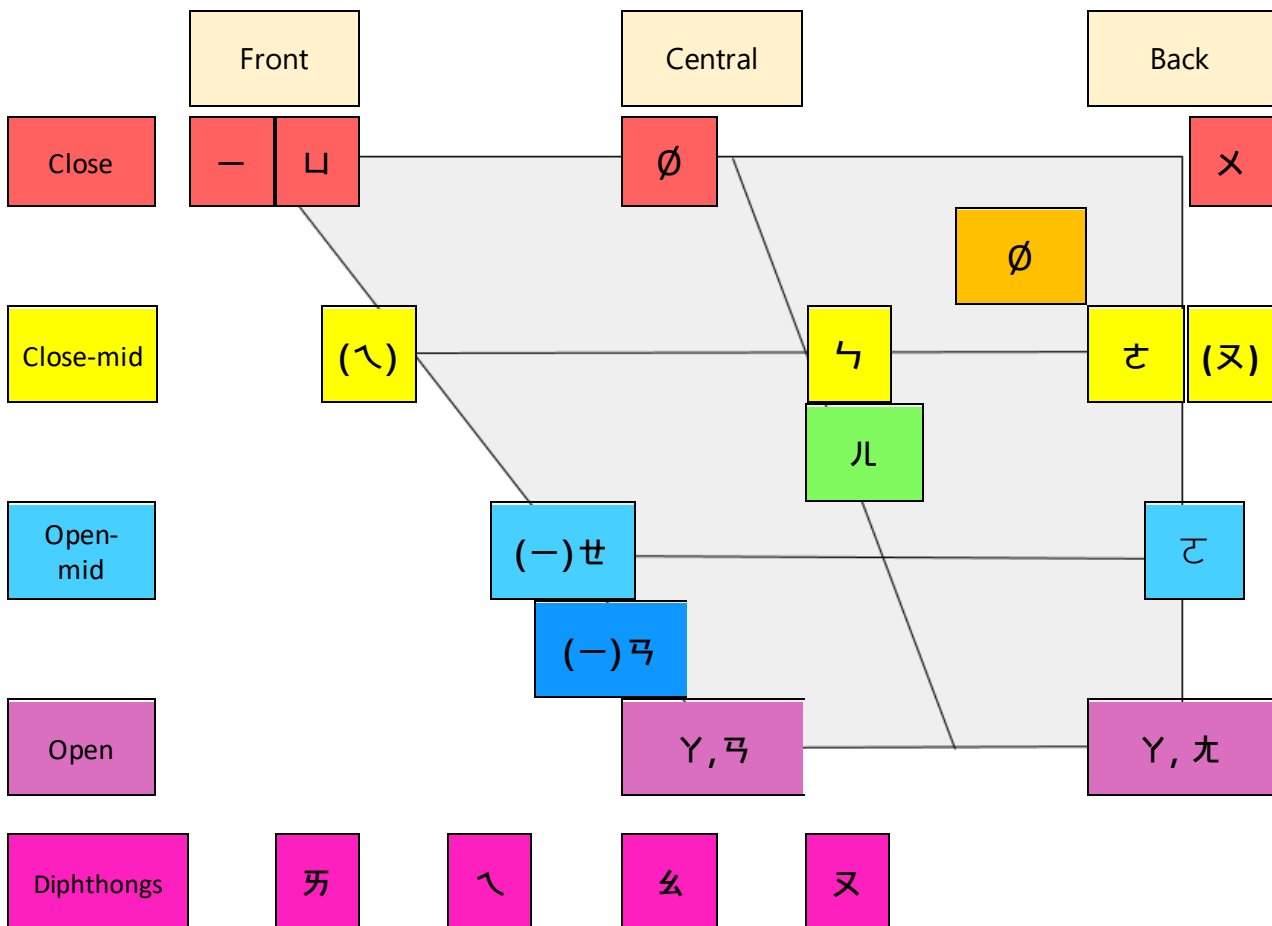
Chinese (Mandarin) vowels, Pinyin



- Symbols enclosed in parentheses are non-phonemic vowels.



Chinese (Mandarin) vowels, Zhuyin



- Symbols enclosed in parentheses are non-phonemic vowels.

References

1. Bopomofo. (2025). In *Wikipedia*.
<https://en.wikipedia.org/w/index.php?title=Bopomofo&oldid=1305556732>
2. Chang, J. (2001). Chinese speakers. In *Learner English: A teacher's guide to interference and other problems*, 2ed (pp. 310–324). Cambridge.
3. *Chinese Pinyin Translator Online—Pronunciation Tool*. (n.d.). Retrieved August 15, 2025, from <https://easypronunciation.com/en/chinese-pinyin-phonetic-transcription-converter>
4. Duanmu, S. (2002). *The phonology of standard Chinese*. Oxford Univ. Press.
5. Gorman, B. K. (nd). *Mandarin and English consonants*. American Speech-Language-Hearing Association (ASHA). <https://www.asha.org/siteassets/uploadedFiles/Mandarin-Phoneme-charts.pdf>
6. Help:IPA/Mandarin. (2022). In *Wikipedia*.
<https://en.wikipedia.org/w/index.php?title=Help:IPA/Mandarin&oldid=1093845198>
7. Lee, X. (2010, 2019). *Pinyin 拼音, Zhuyin 注音, IPA Comparison*. Wordy English.
http://xahlee.org/wordy/musing/bopomofo_pinyin.html
8. Linge, O. (2015a, July 16). Learning to pronounce Mandarin with Pinyin, Zhuyin and IPA: Part 1. *Hacking Chinese*. <https://www.hackingchinese.com/learning-to-pronounce-mandarin-with-pinyin-zhuyin-and-ipa-part-1/>
9. Linge, O. (2015b, October 29). Learning to pronounce Mandarin with Pinyin, Zhuyin and IPA: Part 3. *Hacking Chinese*. <https://www.hackingchinese.com/learning-to-pronounce-mandarin-with-pinyin-zhuyin-and-ipa-part-3/>
10. Linge, O. (2021, April 27). What's the difference between Chinese pronunciation and Pinyin? Does it matter? *Hacking Chinese*. <https://www.hackingchinese.com/whats-the-difference-chinese-pronunciation-and-pinyin-does-matter/>
11. Linge, O. (2022, January 17). A guide to Pinyin traps and pitfalls. *Hacking Chinese*.
<https://www.hackingchinese.com/a-guide-to-pinyin-traps-and-pitfalls/>
12. Mandarin Chinese. (2022). In *Wikipedia*.
https://en.wikipedia.org/w/index.php?title=Mandarin_Chinese&oldid=1096150853
13. *Mandarin phonology – Corpus-based Mandarin pronunciation learning system*. (n.d.). Retrieved July 6, 2022, from https://corpus.eduhk.hk/mandarin_pronunciation/?page_id=33
14. *Pinyin chart*. (2020, December 2). Chinese Pronunciation Wiki.
https://resources.allsetlearning.com/chinese/pronunciation/Pinyin_chart
15. Shei, C. (2014). *Understanding the Chinese language: A comprehensive linguistic introduction*. Routledge.
16. Standard Chinese phonology. (2022). In *Wikipedia*.
https://en.wikipedia.org/w/index.php?title=Standard_Chinese_phonology&oldid=1096160925
17. Swan, M., & Smith, B. (2001). *Learner English: A teacher's guide to interference and other problems*, 2ed. Cambridge.
18. *Valid Pinyin Initial and Final Combination Table*. (n.d.). Retrieved August 15, 2025, from https://www.yellowbridge.com/chinese/pinyin-combo.php#google_vignette
19. *Zhuyin (Bopomofo) and Pinyin Conversion Table*. (n.d.). Retrieved August 15, 2025, from <https://www.yellowbridge.com/chinese/zhuyin.php>

