# Appendix II: Handwritten Segmental Constraints adopted from Gong & Zhang (2021)

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| --- | --- |
| **Constraint** | **penalizing** |
| \*[+high][+high] | [+high][+high] |
| \*[+high,+front][−sb][+high,+front] | [cor] \_\_ [cor] |
| \*[+high,+round][−sb][+high,+round] | [lab] \_\_ [lab] |
| \*[+labial][+round] | pw, pɥ |
| \*[−anterior][+front,−coronal] | tsj, tsɥ |
| \*[−delayed,−aspirated,+dorsal][−consonantal,−labial] | kj |
| \*[+delayed,+anterior,−dorsal][+front,−coronal] | tsj, tsɥ |
| \*[+delayed,+labial][−consonantal,−labial] | fj |
| \*[+front,+labial][+low] | ɥa |
| \*[−delayed,+anterior][+front,+labial] | tɥ |
| \*[+voice,+anterior][+front,+round,+syllabic]  [+nasal,−labial] | n/lyn/ŋ |
| \*[+consonantal,+labial][+front,+round,+syllabic] | py |
| \*[+anterior,−dorsal][−front,+labial][+low][+sb] | twa#, tswa# |
| \*[+anterior,−dorsal][−front,+labial][+low]  [+high,−round,+syllabic] | twai, tswai |
| \*[+anterior,−dorsal][−front,+labial][+low]  [+nasal,+dorsal] | twaŋ, tswaŋ |
| \*[+voice,+delayed][−front,+labial][+low][+sb] | ɻwa# |
| \*[+voice,+delayed][−front,+labial][+low]  [+high,−round,+syllabic] | ɻwai |
| \*[+voice,+delayed][−front,+labial][+low]  [+nasal,+dorsal] | ɻwaiŋ |
| \*[+voice,+anterior][−retroflex][+nasal,+anterior] | l/nən |
| \*[−delayed,+anterior][−retroflex][+nasal,+anterior] | tən |
| \*[+consonantal,+labial][−retroflex][+sb] | pə# |
| \*[−consonantal,−coronal][−retroflex][+nasal,+dorsal] | wəŋ |
| \*[−consonantal,−labial][−high,−low,−front]  [+nasal,+anterior] | jən, jon |
| \*[+front,+round,+syllabic][+nasal,+dorsal] | yŋ |
| \*[−front,+labial][−retroflex][+sb] | wə |
| \*[−front,+labial][−high,+front] | we |
| \*[−retroflex][−front,+labial][+sb] | əu |
| \*[−high,+front][−front,+labial] | eu |
| \*[+front,−coronal][−high,−low,−front] | j/ɥə, j/ɥo |
| \*[−high,−low,−front][−consonantal,−labial] | əi, oi |
| \*[+consonantal][−high,+front][+sb] | Ce# |
| \*[+consonantal][−high,+back][+sb] | Co# |
| \*[+consonantal][−high,+front][+nasal,+anterior] | Cen |
| \*[−front,+labial][−high,+front][+nasal,+anterior] | Wen |
| \*[−high,+front][+nasal,+dorsal] | eŋ |
| \*[−high,+back][+nasal,+anterior] | on |
| \*[−high,+back][+nasal,+dorsal] | oŋ |
| \*[+front,−coronal][+low][+nasal,+anterior] | j/ɥan |