**Rules for generating Yoloxóchitl Mixtec surface forms from underlying representations:**

**Section 1: Vowel harmony, palatalization and labialization**

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| **Gloss** | **Form** | **Context** | **Vowel changes** | | |
|  |  |  | **CVV** | **CV'V** | **CV(')CV** |
| 1sg | =yu1 | root ends in tones 1, 2 | no change | no change | no change |
|  | =2 | root ends in tones 3 o 4 | no change | no change | no change |
|  | =e2 | root ends in vowels /a/, /o/ and tone 2 (alternates with = yu1) | a: Caa > Cee  o: Coo > Coe | a: Ca'a > Ce'e  o: no examples | a: CVCa > CVCe  o: CVCo > CVCwe  CVCoe |
|  | =e1 | root ends in vowels /a/, /o/ and tone 1 | a: Caa > Cee  o: no examples | a: Ca'a > Ce'e  o: no examples | a: CVCa > CVCe  o: CVCo > CVCwe  CVCoe |
|  | =i2 | root ends in vowel /u/ and tone 2 | Cuu > Cwii | Cu'u > Cu'i | CVCu > CVCwi |
|  | =i1 | root ends in vowel /u/ and tone 1 | Cuu > Cwii | Cu'u > Cu'i | CVCu > CVCwi |
| 2sg | =on4 | root ends in vowel /e/, /a/ y /o/ | e: Cee > Ceõ  a: Caa > Caõ  o: Coõ > Coõ | e: Ce'e > Ce'õ  a: Ca'a > Ca'õ  o: Co'o > Co'õ | e: CVCe > CVCyō  a: CVCa > CVCō  o: CVCo > CVCō |
|  | =un4 | root ends in vowel /i/ y /u/ | i: Cii > Cyũũ  u: Cuu > Cuũ | i: Ci'i > Cyu'ũ  Ci'ũ  u: Cu'u > Cu'ũ | i: CVCi > CVCyũ  u: CVCu > CVCũ |
| 3sgMasc | =ra3 | only phrase final and with root ending in tones 3 or 4 | no change | no change | no change |
|  | =ra2 | only phrase medial and root ending in tones 3 or 4 | no change | no change | no change |
|  | =ra1 | any phrase position and with root ending in tones 2 o 1 | no change | no change | no change |
| 3sgFem | =an4 | root ends in vowel /i/, /e/, /o/, /u/ | i: Cii > Cyaan  e: Cee > Cean  o: Coo > Coan  u: Cuu > Cwaan | i: Ci'i > Ci'an  e: Ce'e > Ce'an  o: Ci'i > Ci'an  u: Cu'u > Cu'an | i: CVCi > CVCyan  e: CVCe > CVCyan  o: CVCo > CVCwan  u: CVCu > CVCwan |
|  | =en4 | root ends in vowel /a/ | Caa > Ceen | Ca'a > Ce'en | CVCa > CVCen |
|  | =ña4 | after another enclitic, that is, as an object marker | no change | no change | no change |
| 1plIncl | =o4 | root ends in vowel /i/, /e/ | i: Cii > Cyoo  Cio  e: Cee > Cyoo  Ceo | i: Ci'i > Ci'o  e: Ce'e > Ce'o | i: CVCi > CVCyo  e: CVCe > |
|  | =e4 | root ends in vowel /u/, /o/, /a/ | u: Cuu > Cue  Cwee  o: Coo > Coe  Cwee  a: Caa > Cee | u: Cu'u > Cu'e  Cwe'e  o: Co'o > Co'e  Cwe'e  a: Ca'a > Ce'e | u: CVCu > CVCwe  o: CVCo > CVCwe  a: CVCa > CVCe |
| 1plExcl | =ndu3 | only phrase final and with root ending in tones 3 or 4 | no change | no change | no change |
|  | =ndu2 | only phrase medial and root ending in tones 3 or 4 | no change | no change | no change |
|  | =ndu1 | any phrase position and with root ending in tones 2 o 1 | no change | no change | no change |
| 2pl | =ndo4 | after all roots | no change | no change | no change |
| 3pl | =na3 | only phrase final and with root ending in tones 3 or 4 | no change | no change | no change |
|  | =na2 | only phrase medial and root ending in tones 3 or 4 | no change | no change | no change |
|  | =na1 | any phrase position and with root ending in tones 2 o 1 | no change | no change | no change |
| wood | =run4 | after all roots | no change | no change | no change |
| animals | =ri4 | after all roots | no change | no change | no change |
| liquid | =ra4 | after all roots | no change | no change | no change |
| objects | =a3 | only phrase final and with root ending in any vowel but /a/ and in tones 3 or 4 | i: Cii > Cya  e: Cee > Cjaa  o: Coo > Coa  u: Cuu > Cwaa | i: Ci'i > Ci'a  e: Ce'e > Ce'a  o: Ci'i > Ci'a  u: Cu'u > Cu'a | i: CVCi > CVCya  e: CVCe > CVCya  o: CVCo > CVCwa  u: CVCu > CVCwa |
|  | =a2 | only phrase medial and root ending in any vowel but /a/ and in tones 3 or 4 | i: Cii > Cyaa  e: Cee > Cjaa  o: Coo > Coa  u: Cuu > Cwaa | i: Ci'i > Ci'a  e: Ce'e > Ce'a  o: Ci'i > Ci'a  u: Cu'u > Cu'a | i: CVCi > CVCya  e: CVCe > CVCya  o: CVCo > CVCwa  u: CVCu > CVCwa |
|  | =a1 | any phrase position and with root ending in any vowel but /a/ and tones 2 or 1 | i: Cii > Cyaa  e: Cee > Cjaa  o: Coo > Coa  u: Cuu > Cwaa | i: Ci'i > Ci'a  e: Ce'e > Ce'a  o: Ci'i > Ci'a  u: Cu'u > Cu'a | i: CVCi > CVCya  e: CVCe > CVCya  o: CVCo > CVCwa  u: CVCu > CVCwa |
|  | =e3 | only phrase final and with root ending in /a/ and in tones 3 or 4 | Caa > Cee | Ca'a > Ce'e | CVCa > CVCe |
|  | =e2 | only phrase medial and root ending in /a/ and in tones 3 or 4 | Caa > Cee | Ca'a > Ce'e | CVCa > CVCe |
|  | =e1 | any phrase position and with root ending in /a/ and tones 2 or 1 | Caa > Cee | Ca'a > Ce'e | CVCa > CVCe |
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**2. Denasalization**

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| **Gloss** | **Form** | **Context** | **Vowel changes** | | |
|  |  |  | **CVVn** | **CV'Vn** | **CV(')CVn** |
| 1sg | =e1 | root ends in vowels /a/, /o/ and tone 1 | a: Caa > Cee  o: no examples | a: Ca'a > Ce'e  o: no examples | a: CVCa > CVCe  o: CVCo > CVCwe  CVCoe |
|  | =i2 | root ends in vowel /u/ and tone 2 | Cuu > Cwi | Cu'u > Cu'i | CVCu > CVCwi |
|  | =i1 | root ends in vowel /u/ and tone 1 | Cuu > Cwi | Cu'u > Cu'i | CVCu > CVCwi |
| 1plIncl | =o4 | root ends in vowel /i/, /e/ | i: Cii > Cyo  Cio  e: Cee > Cyo  Ceo | i: Ci'i > Ci'o  e: Ce'e > Ce'o | i: CVCi > CVCyo  e: CVCe > |
|  | =e4 | root ends in vowel /u/, /o/, /a/ | u: Cuu > Cue  Cwe  o: Coo > Coe  Cwe  a: Caa > Cee | u: Cu'u > Cu'e  Cwe'e  o: Co'o > Co'e  Cwe'e  a: Ca'a > Ce'e | u: CVCu > CVCwe  o: CVCo > CVCwe  a: CVCa > CVCe |
| objects | =a3 | only phrase final and with root ending in any vowel but /a/ and in tones 3 or 4 | i: Cii > Cya  e: Cee > Cea  o: Coo > Coa  u: Cuu > Cua | i: Ci'i > Ci'a  e: Ce'e > Ce'a  o: Ci'i > Ci'a  u: Cu'u > Cu'a | i: CVCi > CVCya  e: CVCe > CVCya  o: CVCo > CVCwa  u: CVCu > CVCwa |
|  | =a2 | only phrase medial and root ending in any vowel but /a/ and in tones 3 or 4 | i: Cii > Cya  e: Cee > Cea  o: Coo > Coa  u: Cuu > Cua | i: Ci'i > Ci'a  e: Ce'e > Ce'a  o: Ci'i > Ci'a  u: Cu'u > Cu'a | i: CVCi > CVCya  e: CVCe > CVCya  o: CVCo > CVCwa  u: CVCu > CVCwa |
|  | =a1 | any phrase position and with root ending in any vowel but /a/ and tones 2 or 1 | i: Cii > Cya  e: Cee > Cea  o: Coo > Coa  u: Cuu > Cua | i: Ci'i > Ci'a  e: Ce'e > Ce'a  o: Ci'i > Ci'a  u: Cu'u > Cu'a | i: CVCi > CVCya  e: CVCe > CVCya  o: CVCo > CVCwa  u: CVCu > CVCwa |
|  | =e3 | only phrase final and with root ending in /a/ and in tones 3 or 4 | Caa > Cee | Ca'a > Ce'e | CVCa > CVCe |
|  | =e2 | only phrase medial and root ending in /a/ and in tones 3 or 4 | Caa > Cee | Ca'a > Ce'e | CVCa > CVCe |
|  | =e1 | any phrase position and with root ending in /a/ and tones 2 or 1 | Caa > Cee | Ca'a > Ce'e | CVCa > CVCe |
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