Ngalakan

Consider the data below from Ngalakan, a recently-extinct language that was spoken in Northern Australia. (According to Ethnologue (http://www.ethnologue.com/), the last fluent speaker died in 2004).

Word list

- bakol bakolngi waterlily
- wom womngi black plum
- got gotgi paper bark
- balmana balmanangi hat
- malk malki subsection
- dada dadangi wild honey
- bak baki pond algae
- wandat wandatgi arm
- darbija darbijangi black cockatoo
- gula? gula?gi skin
- gapula gapulangi blind person
- balʧuqa? balʧuqa?gi blanket lizard
- wotfwotf wotfwotfgi thief
- jirkup jirkupgi water rat
- womborot womborotgi rock wallaby
- giŋalk giŋalki white ibis

What are the three allomorphs of the second-person possessive suffix? What determines which allomorph is used?

By separating the words into different groups based on the ending as such:

Group 1

- bakol bakolngi
- wom womngi
- balmana balmanangi
- darbija darbijangi
- dada dadangi
- gapula gapulangi

Group 2

- wotwotf wotfwotfgi
- jirkup jirkupgi
- womborot womborotgi
- got gotgi
- wandat wandatgi
- gula? gula?gi
- baltuda? baltuda?gi

Group 3

- malk malki
- bak baki
- ginalk ginalki

we can observe three different allomorphs for the second-person possesive morphome: -ngi, -gi, and -ki.

The latter one only appears if we're already ending on an unvoiced velar plosive /k/, and the sound merges with the ending.

Otherwise, the suffix is -gi. The allomorph -gi apperas whenever the base word ends on a voiceless consonant, but if the last stem of the noun ends in a voiced phoneme, we insert a nasalized velar sound between the suffix and the word to make the suffix more natural, giving us the $/\eta gi/$ allomorph.