1 **Table S1.** Dry matter content (DMC, %) among cassava genotypes through processing[1]

Genotypes	At harvest time	Fermentation	Oven Drying		Porridges	
			UF	F	UF	F
GM 4414-5	32.81 ± 0.91	44.51 ± 0.00	91.64 ± 0.02	91.87 ± 0 .04	16.77 ± 0.23	17.68 ± 0.30
GM 4571-3	32.92 ± 0.36	43.83 ± 0.85	90.54 ± 0.09	91.05 ± 0 .02	17.12 ± 0.78	17.18 ± 0.37
SM 3757-75	33.32 ± 0.21	40.98 ± 0.53	90.58 ± 0.05	91.47 ± 0 .01	16.50 ± 0.31	16.96 ± 0.48
SM 3758-43	30.64 ± 0.46	37.99 ± 0.57	90.70 ± 0.09	88.95 ± 0 .06	17.23 ± 0.59	16.96 ± 0.57
SM 3762-15	36.01 ± 0.34	41.90 ± 0.44	89.72 ± 0.01	89.51 ± 0 .03	16.81 ± 0.27	15.94 ± 0.25
GM 5194-5	31.68 ± 0.53	42.37 ± 2.01	90.80 ± 0.03	91.43 ± 0 .06	17.25 ± 0.26	17.05 ± 0.27
GM 5194-13	31.70 ± 0.09	41.03 ± 0.15	91.33 ± 0.01	91.54 ± 0 .06	17.22 ± 0.47	16.58 ± 0.53
GM 5212-6	26.80 ± 0.13	34.06 ± 2.18	90.26 ± 0.15	90.43 ± 0 .12	17.15 ± 0.05	16.22 ± 0.10
SM 3767-84	30.42 ± 0.18	41.89 ± 1.21	89.22 ± 0.09	89.26 ± 0 .10	17.09 ± 0.34	18.06 ± 1.12
SM 3774-21	31.79 ± 0.38	44.02 ± 0.44	91.52 ± 0.00	90.83 ± 0 .04	17.79 ± 0.62	17.30 ± 0.33
Min	26.80	34.06	89.22	88.95	16.5	15.94
Max	36.01	44.51	91.64	91.87	17.79	18.06
Average	32.11	41.26	90.63	90.63	17.09	16.99
SEM	0.85	1.00	0.24	0.33	0.11	0.20

2

Table S2. Micellarization efficiency (ME%) for all-E-βC and Z-βC of *Eba* made from *gari* flours[1-3]

Carotene	Treatment	Genotypes	
		SM 3765-15	**SM 3767-84**
		Micellarization (ME%)	
***all*-E-βC**	C-UF	3.29 ± 0.67 ^{b}	12.84 ± 1.62 ^{a*}
	C-F	6.83 ± 0.56 ^{b}	5.31 ± 0.85 ^{b}
	C-G	6.19 ± 2.19 ^{b}	3.88 ± 0.62 ^{b}
	C-Gc	26.84 ± 2.41 ^{a*}	14.46 ± 1.12 ^{a}
Z's-βC	C-UF	4.51 ± 0.55 ^{b}	17.79 ± 2.85 ^{a*}
	C-F	8.55 ± 0.45 ^{b}	10.07 ± 1.74 ^{bc}
	C-G	7.13 ± 1.73 ^{b}	7.14 ± 0.53 ^{c}
	C-Gc	28.53 ± 2.39 ^{a*}	17.89 ± 1.56 ^{a}

[1]Data represents means ± SEM from n=3 independent observations.
[2]Abbreviations: OD: Oven drying, C: Cooking porridges, UF: Unfermented cassava, F: Fermented cassava, G: *gari*, G_c: course flour, particle size 1.2 mm, all other flours were milled and sieved to a particle size of 0.6 mm (fine flour).
[3]Statistical analysis was performed by comparing retention (%) of all-*E*-βC, *Z*-βC) through processing within genotype and between genotypes within type of processing. Presence of different letters denote significant differences ($p<0.05$) in micellarization efficiency among processing within genotype and (*) denote significant differences in micellarization efficiency between pairs of cassava genotypes within same type of processing

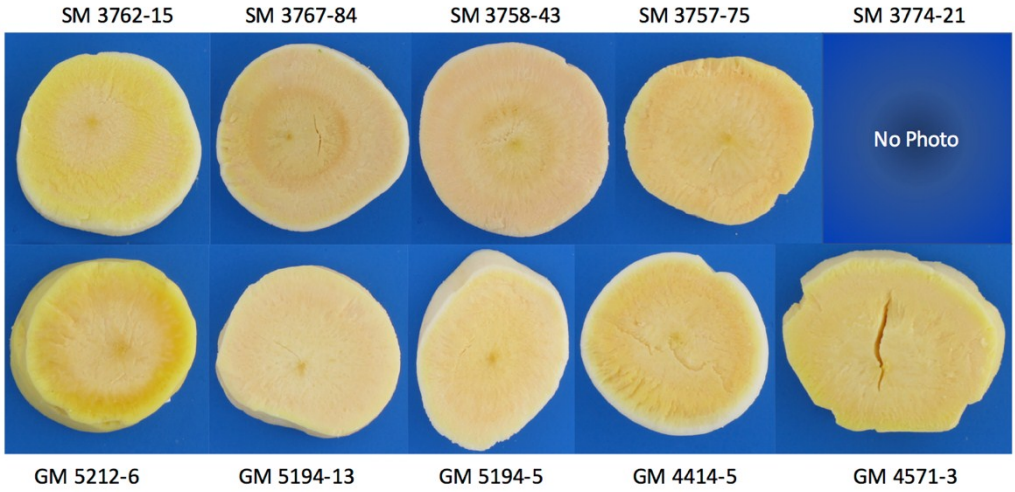
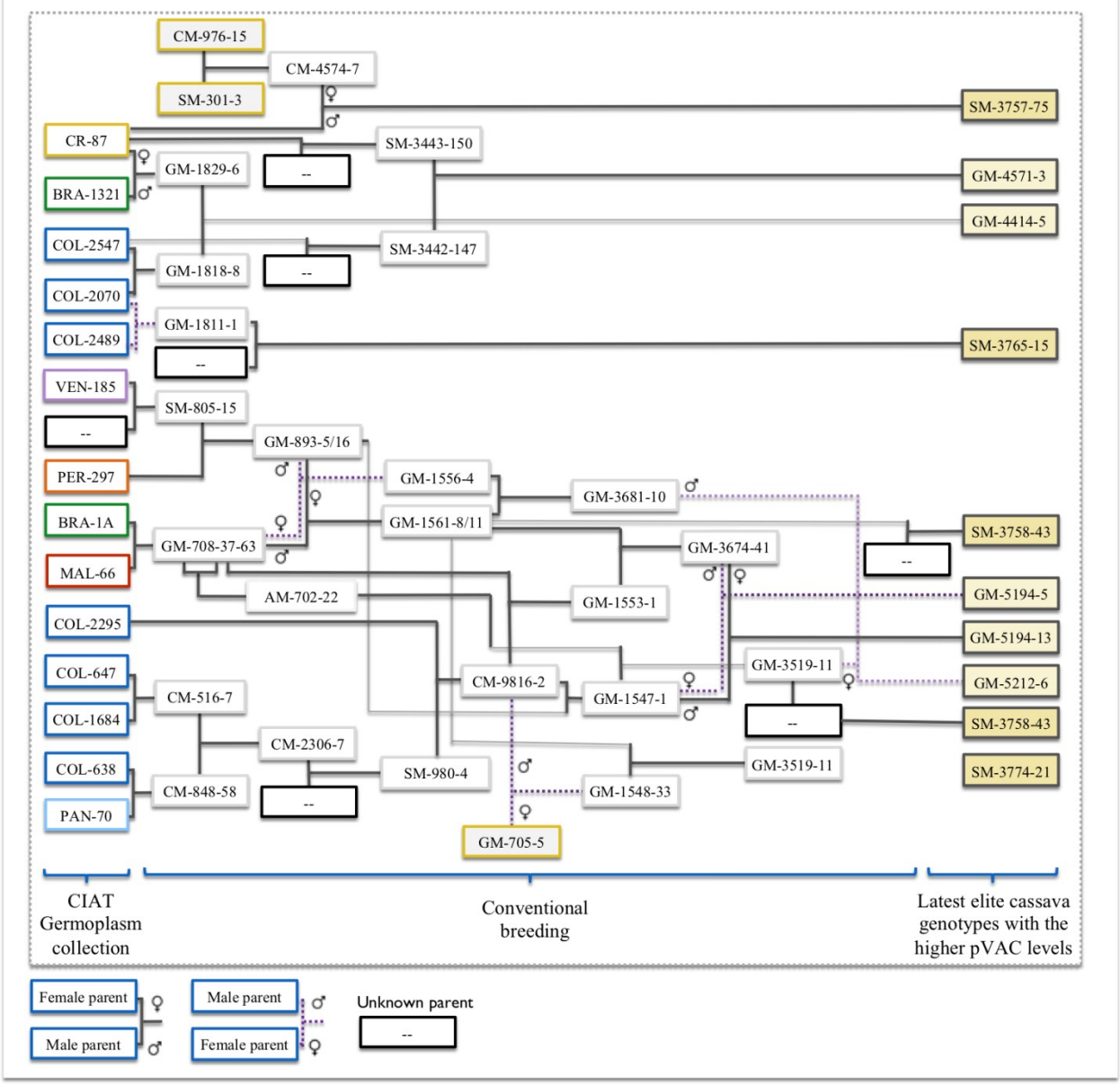


Figure S1. Selected Biofortified Cassava Cultivars at Harvest Time[1,2]

[1]Selected cassava genotypes

[2]Type of crosses: GM or CM= direct controlled cross; SM: Open pollination cross (Only female progenitor is known)

Figure S2. Genetic pedigree of cassava genotypes evaluated[1,2,3]



[1]Genotype progenitors: (FP/MP)

[2]Type of crosses: GM or CM: Direct controlled cross, SM: Open pollination cross (Only female progenitor is known), AM: Self-pollination cross

[3]Cassava landraces used for the first crosses come from the germplasm collection at CIAT. This collection includes white and yellow-fleshed cassava landraces original from different countries: BRA (Brazil), COL (Colombia), CR (Costa Rica), MAL (Malaysia), PAN (Panama), PER (Peru), VEN (Venezuela)