

Table S3: Compositional profile across plagioclase A and plagioclase B from Andaman pillows. Oxides in wt.%.

	Plagioclase A												
	24 / 1	25 / 1	26 / 1	27 / 1	28 / 1	29 / 1	30 / 1	31 / 1	32 / 1	33 / 1	34 / 1	35 / 1	36 / 1
SiO ₂	59.50	66.01	56.82	61.22	63.45	29.72	29.89	29.98	29.54	29.00	47.57	52.71	54.03
TiO ₂	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Al ₂ O ₃	24.03	21.36	25.84	20.39	18.24	15.56	15.77	15.91	15.25	15.08	18.46	27.52	23.88
Cr ₂ O ₃	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.01	0.00
FeO	0.95	0.28	1.62	0.76	0.47	22.65	22.88	21.66	22.59	22.41	11.63	2.83	2.61
MnO	0.00	0.00	0.00	0.03	0.04	0.22	0.23	0.26	0.28	0.23	0.14	0.01	0.06
MgO	0.74	0.00	1.77	0.52	0.00	18.67	19.09	19.16	18.31	18.12	9.17	2.78	2.55
CaO	3.98	2.29	0.82	0.00	0.00	0.11	0.04	0.11	0.09	0.09	0.93	0.21	0.49
Na ₂ O	7.85	11.30	4.38	0.31	0.53	0.05	0.01	0.13	0.04	0.03	6.78	0.44	4.48
K ₂ O	1.71	0.06	6.52	14.90	15.88	0.01	0.01	0.02	0.02	0.05	0.03	8.92	5.60
End-member %													
An	19.68	10.03	4.94	0.02	0.00	52.25	55.80	29.28	50.35	42.06	7.05	1.76	3.20
Ab	70.23	89.66	48.03	3.07	4.82	40.40	34.48	62.90	34.66	29.74	92.67	6.88	53.10
Or	10.09	0.31	47.03	96.90	95.18	7.35	9.72	7.82	14.99	28.20	0.28	91.36	43.70
Weathering indices													
Parker index	65.07	68.32	80.36	121.56	130.06	21.27	21.40	22.36	20.86	20.84	50.52	77.26	73.95
S-D index	3.06	1.89	5.90	65.57	34.47	331.13	1126.07	125.28	435.77	443.41	2.72	62.25	5.33
CIA	52.20	48.35	62.13	55.06	50.24	98.16	99.34	97.37	98.39	98.26	58.88	71.90	62.51

Supplementary Table 3 contd.:

	Plagioclase B														
	37 / 1	38 / 1	39 / 1	40 / 1	41 / 1	42 / 1	43 / 1	44 / 1	45 / 1	46 / 1	47 / 1	48 / 1	49 / 1	50 / 1	51 / 1
SiO ₂	40.17	41.43	34.14	63.72	62.84	33.52	63.09	36.88	36.31	29.51	38.06	29.48	61.06	33.31	64.73
TiO ₂	0.01	0.02	0.03	0.00	0.01	0.00	0.00	0.01	0.09	0.02	0.02	0.02	0.00	0.03	0.00
Al ₂ O ₃	29.37	29.10	15.27	18.36	21.52	18.29	18.18	23.23	20.07	15.60	15.78	15.34	19.77	13.97	21.57
Cr ₂ O ₃	0.00	0.00	0.04	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.04
FeO	0.28	0.21	17.61	0.36	1.38	12.72	0.69	5.97	10.08	21.66	13.10	22.24	3.27	16.85	0.22
MnO	0.01	0.00	0.15	0.00	0.00	0.14	0.02	0.02	0.06	0.28	0.08	0.27	0.03	0.11	0.03
MgO	0.00	0.00	17.78	0.02	1.30	14.41	0.28	3.18	2.40	18.71	14.60	18.54	3.37	21.64	0.06
CaO	12.28	11.65	0.35	0.07	1.04	7.31	0.04	21.73	22.71	0.11	0.49	0.09	1.29	0.34	2.40
Na ₂ O	4.69	4.93	1.22	0.40	9.93	0.17	0.54	0.05	0.02	0.06	3.26	0.06	9.58	0.14	10.86
K ₂ O	0.00	0.00	0.08	15.82	1.81	0.06	15.71	0.02	0.01	0.01	0.20	0.00	0.76	0.06	0.37
End-member %															
An	59.12	56.60	13.32	0.35	4.92	95.05	0.19	99.48	99.78	48.54	7.38	45.19	6.61	50.94	10.67
Ab	40.86	43.40	83.26	3.66	84.90	4.05	4.98	0.43	0.19	44.30	89.10	54.81	88.78	38.93	87.38
Or	0.01	0.00	3.42	95.99	10.18	0.90	94.83	0.09	0.03	7.16	3.52	0.00	4.61	10.14	1.95
Weathering indices															
Parker index	44.35	44.83	27.81	128.90	74.11	27.89	129.14	35.00	35.29	21.39	37.14	21.09	66.38	25.81	68.51
S-D index	6.26	5.90	12.56	46.26	2.17	106.33	33.48	446.67	836.13	273.72	4.83	243.41	2.06	97.00	1.99
CIA	49.44	49.84	84.87	50.64	51.60	57.30	50.29	36.96	32.68	98.02	70.92	98.24	51.09	93.83	48.79