

Table A2a: feldspar-bearing parent and feldspar-bearing daughter

Modelling step	Low Sr-Zr to high Sr-Zr (mafic)			High Sr-Zr (mafic) to high Sr-Zr (evolved)
	A	B	C	D
Parent	Montaña Cascajo, phase 1 TFC-249	Montaña Cascajo, phase 3 TFC-287	Montañas Negras TFC-276	Montaña Reventada basanite TFC-243
Daughter	Montaña Reventada basanite TFC-243	Montaña Reventada basanite TFC-243	Montaña Reventada basanite TFC-243	Montaña de Chío TFC-540
Bulk F [%]	39.73	37.78	48.82	33.68
ol (low Sr-Zr)	5.29	3.87	1.71	
cpx (low Sr-Zr)	19.11	18.11	23.74	
plag (low Sr-Zr)	8.00	8.36	14.10	
ol (high Sr-Zr)				2.05
cpx (high Sr-Zr)				14.15
plag (high Sr-Zr)				10.12
mt	7.29	7.44	9.27	4.96
il	0.00	0.00	0.00	0.84
ap	0.04	0.01	0.00	1.55
Bulk extract composition [wt%]				
SiO ₂	38.73	38.50	39.81	39.27
TiO ₂	5.18	5.45	5.33	5.54
Al ₂ O ₃	9.73	10.34	12.28	11.01
Fe ₂ O ₃	6.46	6.83	6.72	5.66
FeO	12.45	12.51	11.13	10.87
MnO	0.24	0.25	0.23	0.26
MgO	12.82	11.54	8.68	8.36
CaO	12.87	12.98	13.80	14.61
Na ₂ O	1.23	1.32	1.66	2.01
K ₂ O	0.24	0.27	0.35	0.45
P ₂ O ₅	0.04	0.01	0.00	1.96
[ppm]				
Sr	484.16	520.32	655.60	705.24
Zr	78.99	78.72	79.84	152.56
Nd	25.66	24.37	24.31	96.81
Ni	700.99	653.35	476.63	456.86
Bulk D _{Sr}	0.56	0.59	0.83	0.63
Bulk D _{Zr}	0.33	0.33	0.37	0.44
Bulk D _{Nd}	0.53	0.50	0.58	1.41
Bulk D _{Ni}	6.33	7.62	6.57	103.36

Table A2b: feldspar-bearing parent and feldspar-free daughter

Modelling step	Low Sr-Zr to high Sr-Zr (mafic)			High Sr-Zr (mafic) to high Sr-Zr (evolved)
	A	B	C	D
Parent	Montaña Cascajo, phase 1 TFC-249	Montaña Cascajo, phase 3 TFC-287	Montañas Negras TFC-276	Chinyero (1909) TFC-052
Daughter	Chinyero (1909) TFC-052	Chinyero (1909) TFC-052	Chinyero (1909) TFC-052	Montaña de Chío TFC-540
Bulk F [%]	25.38	23.40	32.55	33.78
ol (low Sr-Zr)	6.33	4.23	2.58	
cpx (low Sr-Zr)	6.62	7.74	15.40	
plag (low Sr-Zr)	8.72	7.55	8.57	
ol (high Sr-Zr)				2.46
cpx (high Sr-Zr)				19.77
plag (high Sr-Zr)				
mt	3.23	3.60	5.93	6.91
il	0.19			0.56
ap	0.29	0.28	0.07	4.08
Bulk extract composition [wt%]				
SiO ₂	40.76	40.18	39.57	30.63
TiO ₂	3.76	4.14	5.14	6.80
Al ₂ O ₃	12.05	12.03	11.43	4.16
Fe ₂ O ₃	4.51	5.33	6.46	7.30
FeO	11.12	11.22	11.48	14.19
MnO	0.20	0.21	0.23	0.34
MgO	14.79	12.82	10.39	11.13
CaO	10.10	11.43	13.38	19.89
Na ₂ O	1.81	1.74	1.52	0.41
K ₂ O	0.42	0.39	0.32	0.00
P ₂ O ₅	0.49	0.51	0.09	5.14
[ppm]				
Sr	770.25	740.83	604.92	547.15
Zr	42.85	54.32	77.67	212.47
Nd	36.80	41.24	39.11	126.76
Ni	615.88	371.00	455.23	583.16
Bulk D _{Sr}	0.89	0.84	0.76	0.51
Bulk D _{Zr}	0.18	0.23	0.36	0.71
Bulk D _{Nd}	0.86	0.91	0.84	2.24
Bulk D _{Ni}	4.04	7.59	9.65	28.80

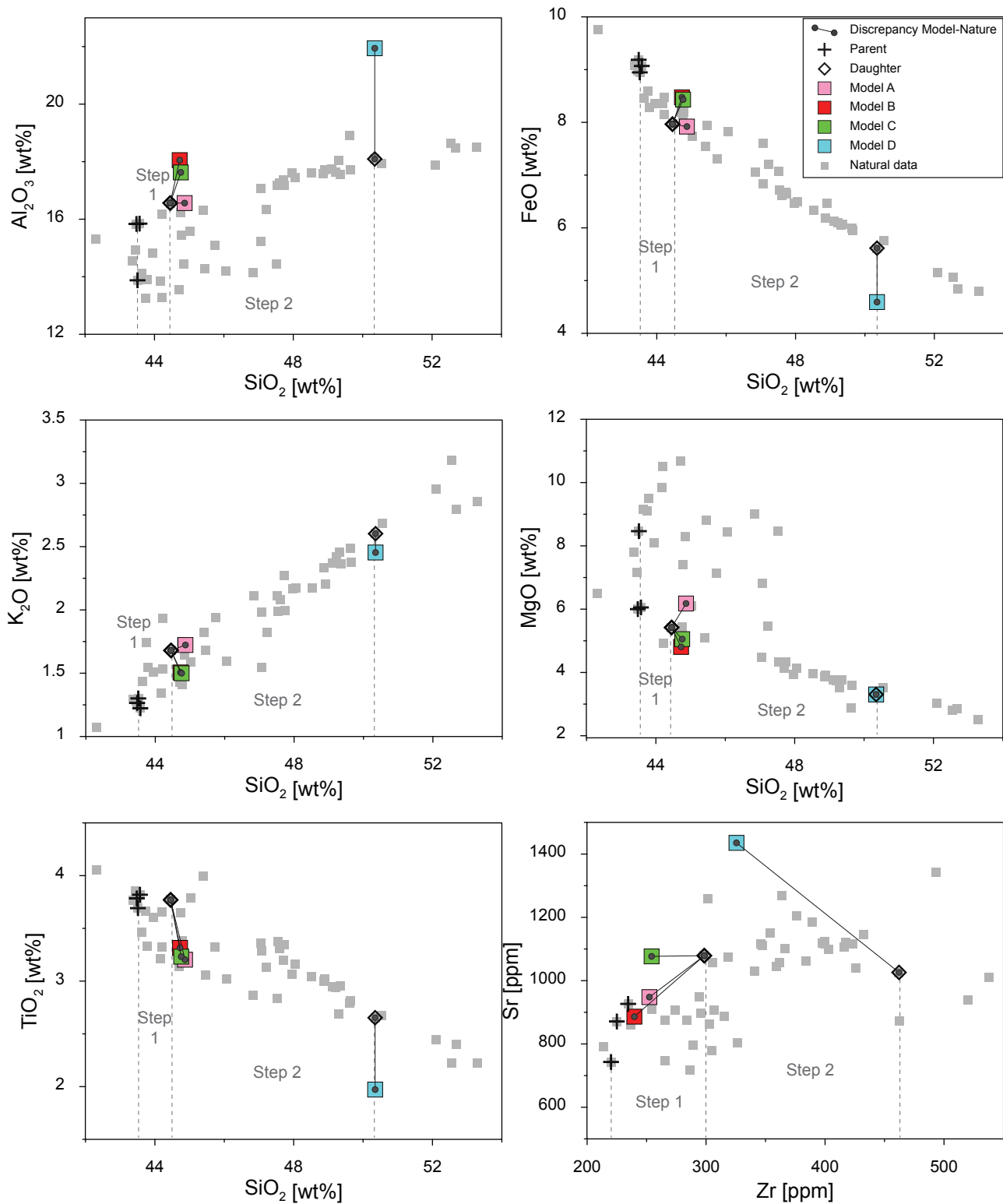
Table A2c: feldspar-free parent and feldspar-free daughter

Modelling step	Low Sr-Zr to high Sr-Zr (mafic)			High Sr-Zr (mafic) to high Sr-Zr (evolved)
	A	B	C	D
Model				
Parent	Garachico (1706) TFC-353	Montaña del Banco TFC-379	Montaña Del Topo TFC-120	Chinyero (1909) TFC-052
Daughter	Chinyero (1909) TFC-052	Chinyero (1909) TFC-052	Chinyero (1909) TFC-052	Chahorra (1798) TFC-231
Bulk F [%]	24.51	18.81	15.67	31.52
ol (low Sr-Zr)	3.03			
cpx (low Sr-Zr)	18.03	15.52	12.26	
plag (low Sr-Zr)				
ol (high Sr-Zr)				0.19
cpx (high Sr-Zr)				20.82
plag (high Sr-Zr)				
mt	3.66	3.30	3.41	8.70
il				
ap				1.81
Bulk extract composition [wt%]				
SiO ₂	39.32	38.58	36.60	31.65
TiO ₂	5.20	5.99	6.75	7.68
Al ₂ O ₃	5.61	6.32	6.20	4.87
Fe ₂ O ₃	6.16	7.11	8.10	9.25
FeO	12.11	11.63	13.24	15.29
MnO	0.24	0.25	0.28	0.36
MgO	15.50	11.44	11.10	10.02
CaO	16.34	18.27	17.33	17.99
Na ₂ O	0.37	0.42	0.39	0.45
K ₂ O	0.00	0.00	0.00	0.00
P ₂ O ₅	0.00	0.00	0.00	2.45
[ppm]				
Sr	111.09	124.55	118.11	304.76
Zr	120.79	135.42	128.42	239.74
Nd	31.81	36.01	27.04	226.18
Ni	865.67	753.61	568.36	602.71
Bulk D _{Sr}	0.15	0.14	0.13	0.28
Bulk D _{Zr}	0.55	0.60	0.55	0.80
Bulk D _{Nd}	0.66	0.74	0.64	4.00
Bulk D _{Ni}	7.82	8.79	7.84	29.76

Table A2d: feldspar-free parent and feldspar-bearing daughter

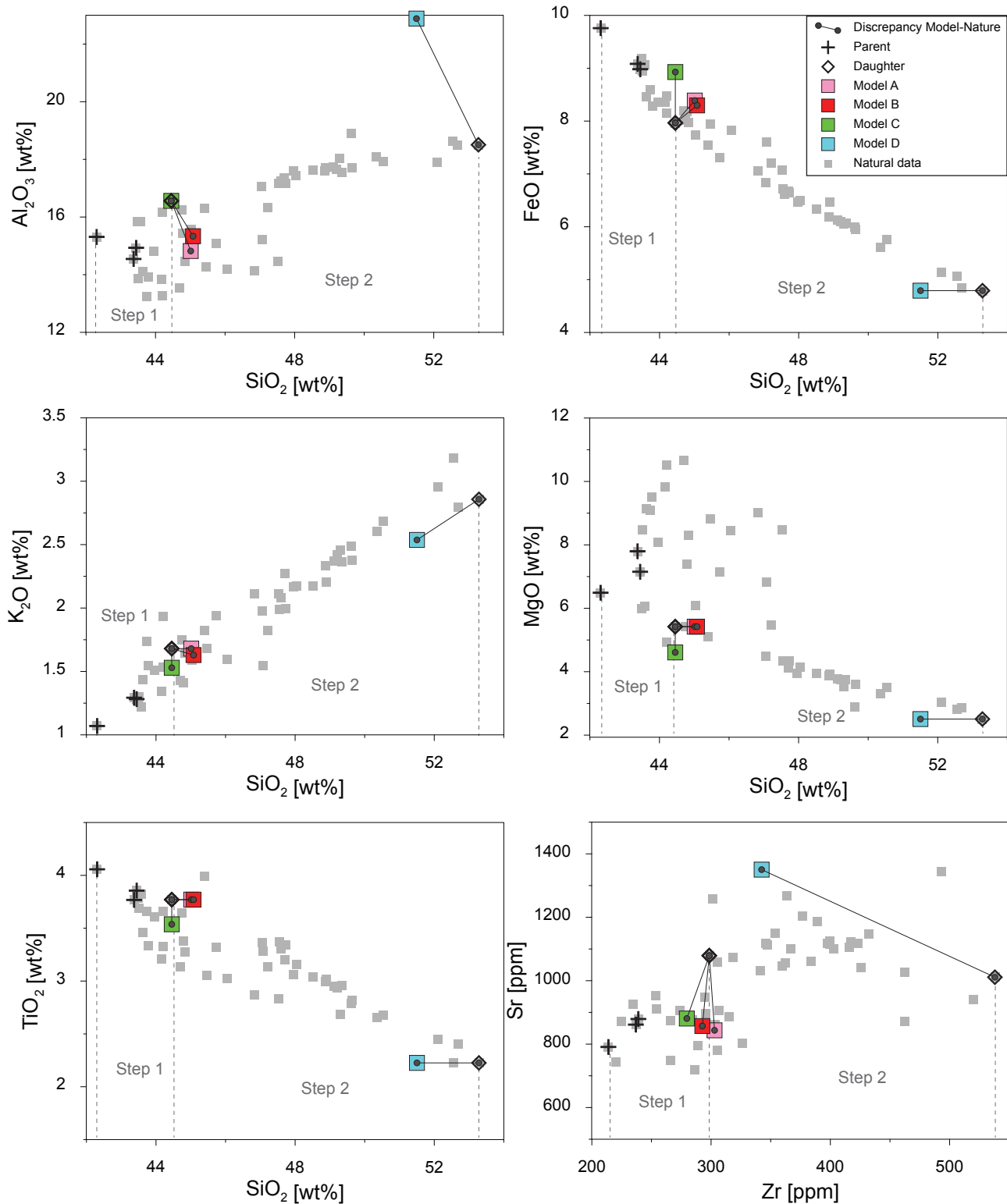
Modelling step	Low Sr-Zr to high Sr-Zr (mafic)			High Sr-Zr (mafic) to high Sr-Zr (evolved)
	A	B	C	D
Parent	Garachico (1706) TFC-353	Montaña del Banco TFC-379	Montaña Del Topo TFC-120	Montaña Reventada basanite TFC-243
Daughter	Montaña Reventada basanite TFC-243	Montaña Reventada basanite TFC-243	Montaña Reventada basanite TFC-243	Chahorra (1798) TFC-231
Bulk F [%]	26.31	24.13	23.54	51.03
ol (low Sr-Zr)	3.77	0.66	0.69	
cpx (low Sr-Zr)	15.65	16.22	15.41	
plag (low Sr-Zr)				
ol (high Sr-Zr)				3.18
cpx (high Sr-Zr)				12.02
plag (high Sr-Zr)				27.39
mt	5.84	5.72	5.97	5.18
il				1.26
ap	1.04	1.52	1.47	1.99
Bulk extract composition [wt%]				
SiO ₂	33.58	32.60	31.86	43.90
TiO ₂	6.31	6.84	7.13	4.04
Al ₂ O ₃	4.94	5.53	5.48	16.08
Fe ₂ O ₃	7.64	8.28	8.65	4.12
FeO	14.86	13.99	14.63	8.01
MnO	0.29	0.29	0.30	0.19
MgO	14.91	10.98	10.92	5.83
CaO	15.47	18.46	18.03	12.14
Na ₂ O	0.31	0.36	0.35	3.24
K ₂ O	0.00	0.00	0.00	0.80
P ₂ O ₅	1.69	2.68	2.66	1.66
[ppm]				
Sr	247.38	351.90	346.76	1028.18
Zr	97.69	110.40	107.51	85.54
Nd	94.49	136.49	134.59	76.52
Ni	805.62	557.24	594.09	364.00
Bulk D _{Sr}	0.33	0.40	0.37	0.92
Bulk D _{Zr}	0.44	0.49	0.46	0.25
Bulk D _{Nd}	2.20	3.01	2.89	1.12
Bulk D _{Ni}	5.29	11.40	12.60	82.35

Scenario 2: feldspar-free parent and feldspar-free daughter composition



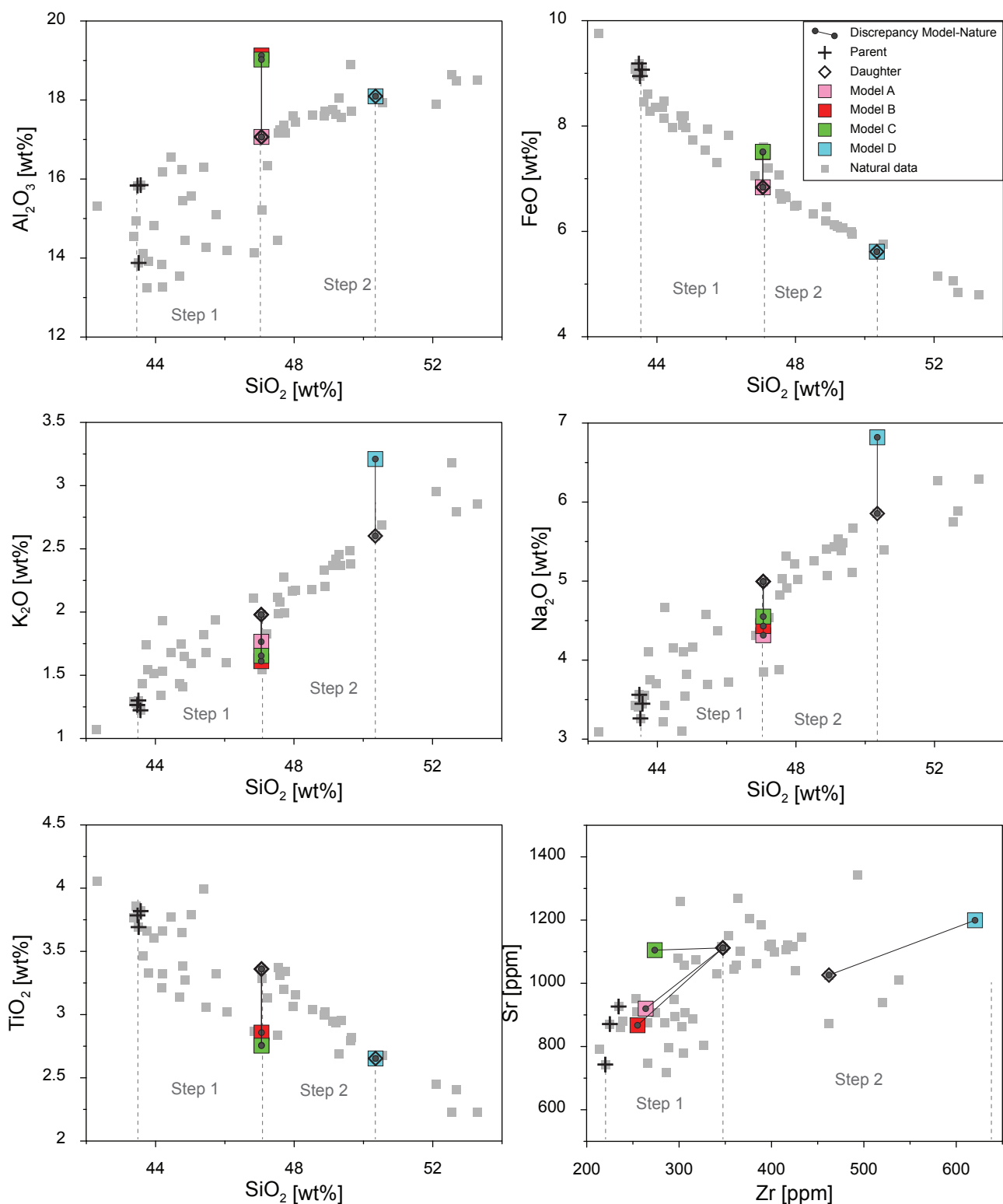
The calculated closed system models of feldspar-free parent and daughter compositions in comparison with natural data. Calculated models are shown as coloured squares, parent compositions are marked by crosses and daughter compositions by open diamonds. The daughter composition of step 1 is the parent for step 2. Discrepancies between the models and their respective daughter compositions are indicated by tie lines.

Scenario 3: feldspar-bearing parent and feldspar-free daughter composition



The calculated closed system models of feldspar-bearing parent and feldspar-free daughter compositions in comparison with natural data. Calculated models are shown as coloured squares, parent compositions are marked by crosses and daughter compositions by open diamonds. The daughter composition of step 1 is the parent for step 2. Discrepancies between the models and their respective daughter compositions are indicated by tie lines.

Scenario 3: feldspar-free parent and feldspar-bearing daughter composition



The calculated closed system models of feldspar-free parent and feldspar-bearing daughter compositions in comparison with natural data. Calculated models are shown as coloured squares, parent compositions are marked by crosses and daughter compositions by open diamonds. The daughter composition of step 1 is the parent for step 2. Discrepancies between the models and their respective daughter compositions are indicated by tie lines.