SUPPLEMENTARY INFORMATION #3 - ^{40}Ar-^{39} Ar GEOCHRONOLOGICAL DATA

Summary table of the ^{40}Ar-^{39}Ar results, followed by relevant ^{40}Ar-^{39}Ar data for all the experiments. Figures with the age spectra, $^{37}Ar_{Ca}/^{39}Ar_K$ diagram and the correlation ^{36}Ar/^{40}Ar versus ^{39}Ar/^{40}Ar plot for all the samples is presented next identifying in the age spectra with a horizontal arrow the segment used to calculate t_p and W_m. The atmospheric value is indicated in the ^{36}Ar/^{40}Ar versus ^{39}Ar/^{40}Ar plot with an arrow in the Y-axis. In the tables and figures t_c, $(^{40}Ar/_{36}Ar)_i$, MSWD and the number of data points included to determine the straight line are given. The preferred age is identified in bold typeface in the tables and the figures.

Santa Rosalía North

Sample	min	t_p or (W_m) Ma	% ^{39}Ar	MSWD / n	t_c Ma	$(^{40}Ar/^{36}Ar)_i$	MSWD / n	Rock Type	Lat N	Long W
SR 08-6	gms	**13.08 ± 0.11**	75.34	0.9 / 8	13.03 ± 0.36	308 ± 37	0.4 / 7	Basaltic trachyandesite lava dome (coherent interior)	27.33322	112.345201
SR 09-1	gms	**13.21 ± 0.21**	87.96	1.0 / 8	13.24 ± 0.33	290 ± 6	1.7 / 15	Basaltic andesite lava / lava dome from West Curuglu area	27.340178	112.342491
SR 12-4	gms	13.90 ± 0.08	85.45	0.9 / 7	**13.81 ± 0.10**	331 ± 21	0.6 / 8	Trachyandesite peperite / lava dome complex of Mina Victoria	27.34762	112.340263
SR 12-2†	plg	**10.08 ± 0.92**	100	0.8 / 5	12.6 ± 1.6	287 ± 15	1.0 / 10	Basaltic andesite lava of Mina Victoria (coherent interior)	27.348089	112.3367
	gms	(12.12 ± 0.51)	24.82	< 0.1 / 3						
SR 08-4	gms	11.50 ± 0.18	84.36	0.7 / 7	**10.83 ± 0.95**	314 ± 18	1.2 / 13	Basaltic andesite lava (block from basal flow breccia)	27.336636	112.337418
SR 15-8	gms	9.75 ± 0.14	76.6	0.2 / 5	**9.69 ± 0.12**	291 ± 6	1.0 / 14	Basaltic trachyandesite lava, interstratified with the El Morro Tuff	27.321388	112.24194
SR 14-1	wr	**9.66 ± 0.21**	73.41	0.5 / 6	9.71 ± 0.34	302 ± 15	0.5 / 11	Upper basaltic andesite lava of Cerro Juanita (coherent interior)	27.314722	112.299444
SR 14-5	wr	**8.84 ± 0.16**	87.27	0.4 / 7	9.10 ± 0.39	288 ± 10	0.4 / 7	Upper andesite lava of Cerro Montado (block from flow breccia)	27.301388	112.2825

Santa Rosalía South

Sample	min	t_p or (W_m) Ma	% ^{39}Ar	MSWD / n	t_c Ma	$(^{40}Ar/^{36}Ar)_i$	MSWD / n	Rock Type	Lat N	Long W
SL 08-4	gms	10.48 ± 0.09	85.03	0.6 / 8	**10.11 ± 0.14**	336 ± 16	1.2 / 16	Andesite pyroxene lava from Cerro San Lucas (coherent interior)	27.192278	112.240444
SL 08-1§	gms	5.92 ± 0.29	36.51	0.4/ 3	6.01 ± 0.86	296 ± 13	1.8 / 8	Trachyandesite hornblende intrusion of Cerro San Lucas	27.18728	112.245441
	hb	**6.06 ± 0.27**	74.02	0.2 / 2						

All errors are 1σ; t_p plateau age; W_m weighted mean of 2 or more consecutive fractions; %^{39}Ar percentage of ^{39}Ar released with the fractions selected for the plateau age (weighted mean); MSWD mean square of weighted deviates; n number of data fited; t_c inverse correlation diagram age; $(^{40}Ar/^{36}Ar)_i$ initial ratio of the sample; hb hornblende; plg plagioclase; gms groundmass; wr whole rock; preferred age is identified in bold typeface. † Isochron age contains data of plagioclase and groundmass; § Isochron age calculated with the combined fractions of hbde and gms

SR 08-6

Basaltic trachyandesite lava dome (coherent interior)

Lat N	Long W
27.33322	112.345201

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.5	30.055	1.76	-4.96	0.77	-39.26	6.15	a	‡	-11.42	265.22	0.484
1.2	68.937	4.04	0.49	0.23	3.81	1.81	b	‡	5.39	312.32	1.033
1.8	123.875	7.25	1.50	0.07	11.72	0.53	c	‡	41.73	507.10	1.513
2.2	106.170	6.21	1.73	0.06	13.48	0.43	d		72.99	1094.18	1.594
2.6	129.674	7.59	1.73	0.05	13.49	0.41	e		84.95	1963.87	1.615
3.2	198.311	11.61	1.68	0.04	13.09	0.30	f		81.41	1589.71	1.483
3.6	154.617	9.05	1.60	0.04	12.45	0.31	g	‡	87.95	2452.19	1.414
4.5	214.755	12.57	1.70	0.03	13.25	0.25	h		89.11	2712.79	1.267
5.5	186.098	10.89	1.66	0.03	12.98	0.22	i		83.81	1825.12	1.176
6.5	170.026	9.95	1.67	0.04	13.06	0.31	j		81.37	1586.28	1.175
8.0	127.664	7.47	1.67	0.06	13.03	0.47	k		72.70	1082.27	1.507
12.0	198.802	11.61	1.37	0.10	10.73	0.75	l	‡	37.14	470.12	4.347

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
1709.0	1.46	0.03	11.43	0.22	43.63	524.17	1.70

CIC 93 RO J = 0.004341 ± 0.000008

Preferred age t_p = 13.08 ± 0.11 Ma

Weighted mean of groundmass fractions d to k, representing 75.34% of ^{39}Ar released in 8 consecutive fractions, MSWD = 0.9

t_c = 13.03 ± 0.36 Ma; $(^{40}Ar/^{36}Ar)_i$ = 308 ± 37, MSWD = 0.4 for n = 7

‡ fraction ignored in the isochron given in the figure

SR 09-1
Basaltic andesite lava / lava dome from West Curuglu area

Lat N	Long W
27.340178	112.342491

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.6	145.483	11.20	1.00	0.10	7.81	0.79	a	‡	21.42	376.05	5.710
1.2	127.678	9.86	0.93	0.10	7.26	0.82	b	‡	9.25	325.61	0.882
1.9	156.751	12.10	1.62	0.08	12.67	0.64	c		32.58	438.26	1.359
2.6	193.148	14.91	1.73	0.06	13.47	0.50	d		52.57	622.98	1.677
3.6	259.334	20.02	1.65	0.05	12.91	0.39	e		56.31	676.35	1.514
5.0	170.644	13.17	1.62	0.07	12.67	0.56	f		60.78	753.54	1.645
7.0	120.794	9.32	1.72	0.07	13.43	0.54	g		57.72	698.96	2.672
9.0	122.468	9.42	1.41	0.08	11.01	0.60	h		32.44	437.41	7.166
0.4	51.165	4.30	1.99	0.37	15.48	2.84	i		10.65	330.71	0.381
1.0	91.882	7.73	0.79	0.21	6.21	1.61	j	‡	5.73	313.46	0.638
1.5	105.179	8.84	1.66	0.12	12.97	0.97	k		21.59	376.85	1.174
2.0	142.699	12.00	1.52	0.10	11.87	0.79	l		32.74	439.33	1.434
2.5	138.407	11.63	1.70	0.08	13.26	0.60	m		48.63	575.20	1.577
3.0	133.577	11.23	1.72	0.06	13.39	0.50	n		53.79	639.43	1.618
4.0	137.800	11.58	1.79	0.06	13.96	0.46	o		59.61	731.58	1.591
6.0	215.892	18.14	1.66	0.05	12.99	0.37	p		59.58	731.07	1.990
8.0	105.610	8.86	1.69	0.10	13.22	0.78	q		46.65	553.85	3.986
10.0	67.896	5.68	1.57	0.18	12.27	1.37	r		32.02	434.71	8.913

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
1296.0	1.50	0.03	11.68	0.27	35.33	456.95	2.59
1190.0	1.62	0.05	12.61	0.35	30.29	423.93	2.11

CIC 93 RO J = 0.004341 ± 0.000008

Preferred age t_p = 13.21 ± 0.21 Ma

Weighted mean of fractions k to r, representing 87.96% of ^{39}Ar released in 8 consecutive fractions, MSWD = 1.0

t_c = 13.24 ± 0.33 Ma; $(^{40}Ar/^{36}Ar)_i$ = 290 ± 6, MSWD = 1.7 for n = 15

‡ fraction ignored in the isochron given in the figure

SR 12-4
Trachyandesite peperite / lava dome complex of Mina Victoria

Lat N	Long W
27.34762	112.340263

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.40	22.12	1.20	-12.94	1.72	-104.29	14.29	a	‡	-13.77	259.72	0.84
1.50	89.34	4.83	0.91	0.24	7.13	1.89	b	‡	9.17	325.32	1.49
2.00	158.04	8.54	1.86	0.06	14.54	0.43	c		70.10	988.19	1.36
2.50	245.09	13.24	1.81	0.04	14.10	0.28	d		84.18	1867.39	1.24
3.50	372.51	20.12	1.79	0.02	13.96	0.14	e		92.66	4023.31	1.10
4.50	344.99	18.64	1.78	0.02	13.86	0.12	f		98.21	16519.01	0.91
5.50	247.07	13.35	1.79	0.02	13.95	0.16	g		99.00	29547.71	0.84
6.50	149.30	8.07	1.73	0.03	13.53	0.24	h		95.98	7359.14	0.94
8.00	103.06	5.57	1.75	0.04	13.63	0.31	i		94.41	5287.57	1.78
10.00	119.89	6.46	1.84	0.06	14.36	0.44	j		96.36	8123.87	4.62

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
1851.0	1.57	0.03	12.28	0.23	45.58	542.96	1.34

CIC 93 RO J = 0.004341 ± 0.000008

t_p = 13.90 ± 0.08 Ma; weighted mean of fractions d to j, representing 85.45% of ^{39}Ar released in 7 consecutive fractions, MSWD = 0.9

Preferred age t_c = 13.81 ± 0.10 Ma; $(^{40}Ar/^{36}Ar)_i$ = 331 ± 21, MSWD = 0.6 for n = 8

‡ fraction ignored in the isochron given in the figure.

SR 12-2
Basaltic andesite lava of Mina Victoria (coherent interior)

Lat N	Long W
27.348089	112.3367

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.6	63.09	4.65	-5.09	0.60	-39.30	4.69	a		-12.86	261.84	0.37
1.2	150.85	11.11	-0.59	0.23	-4.49	1.77	b		-3.67	285.05	0.59
1.8	145.21	10.69	0.45	0.18	3.47	1.36	c		4.57	309.65	1.00
2.4	152.93	11.26	0.98	0.16	7.48	1.20	d		11.86	335.26	1.15
3.0	154.41	11.37	1.33	0.14	10.10	1.08	e		19.56	367.36	1.15
3.6	149.20	10.99	1.44	0.10	10.95	0.74	f		24.16	389.65	1.15
4.2	145.42	10.71	1.59	0.09	12.12	0.67	g	†	28.50	413.26	1.34
5.0	97.69	7.19	1.60	0.14	12.15	1.05	h	†	31.14	429.13	1.83
6.0	94.04	6.92	1.59	0.14	12.09	1.03	i	†	28.23	411.71	2.20
8.0	70.66	5.20	1.31	0.19	9.94	1.43	j		19.53	367.21	2.93
12.0	134.83	9.91	1.07	0.14	8.18	1.08	k		15.26	348.73	4.64
0.5	65.85	4.97	-3.94	0.57	-30.33	4.42	l		-11.96	263.94	0.31
1.0	139.14	10.50	-0.61	0.26	-4.68	2.02	m		-3.91	284.38	0.45
1.6	125.05	9.44	0.59	0.14	4.48	1.10	n		5.39	312.35	0.93
2.2	165.45	12.48	1.08	0.17	8.23	1.26	o		14.00	343.62	1.40
2.8	192.46	14.52	1.31	0.12	9.99	0.89	p		20.24	370.48	1.32
3.4	148.12	11.18	1.49	0.11	11.35	0.83	q	†	25.17	394.88	1.36
4.2	130.25	9.83	1.59	0.08	12.13	0.64	r	†	29.57	419.56	1.62
5.0	101.63	7.66	1.85	0.10	14.04	0.72	s		36.90	468.31	2.16
6.2	59.10	4.46	1.69	0.12	12.83	0.91	t		33.95	447.38	2.54
8.0	77.95	5.87	1.56	0.19	11.91	1.45	u		22.97	383.63	3.88
10.0	120.79	9.09	1.16	0.17	8.83	1.28	v		14.67	346.31	5.25

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
1358.0	0.74	0.08	5.61	0.63	7.79	320.46	1.62
1326.0	0.86	0.08	6.54	0.62	9.4	326.15	1.81

Laser step-heating experiments with plagioclase concentrate

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
2	42.41	33.40	1.25	0.29	9.52	2.20	1	†	13.98	343.54	17.1
4	30.98	24.25	1.36	0.17	10.38	1.31	2	†	38.20	478.15	26.5
7	14.99	11.72	1.81	0.40	13.75	3.04	3	†	35.85	460.61	28.6
9	18.78	14.63	1.44	0.44	11.00	3.32	4	†	20.57	372.04	33.5
12	20.75	16.00	0.96	0.30	7.29	2.32	5		15.50	349.71	49.9

SR 12-2 (cont.)
Basaltic andesite lava of Mina Victoria (coherent interior)

Lat N	Long W
27.348089	112.3367

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
127.90	1.32	0.15	10.08	1.12	20.51	371.76	28.38

CIC 93 BOO J = 0.004232 ± 0.000018

Preferred age t_p = 10.08 ± 0.92 Ma

Weighted mean of plagioclase experiment, fractions 1 to 5, representing 100% of ^{39}Ar released in 5 consecutive fractions, MSWD = 0.8

t = 12.12 ± 0.51 Ma; weighted mean of groundmass experimento, fractions g to i, representing 24.82% of ^{39}Ar released in 3 consecutive fractions, MSWD < 0.1

t_c = 12.6 ± 1.6 Ma; $(^{40}Ar/^{36}Ar)_i$ = 287 ± 15, MSWD = 0.6 for n = 10 (gms and plg)

† fractions used to calculate the isochron age

SR 08-4
Basaltic andesite lava (block from basal flow breccia)

Lat N	Long W
27.336636	112.337418

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% $^{39}Ar^{\dagger}$	$^{40}Ar^{*}/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^{*}$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.5	124.161	12.41	0.90	0.14	7.05	1.06	a	‡	11.07	332.27	0.305
1.2	204.103	20.41	1.62	0.06	12.61	0.50	b		38.10	477.38	0.433
1.8	161.526	16.15	1.52	0.08	11.86	0.61	c		44.57	533.07	0.926
2.5	139.419	13.94	1.61	0.07	12.54	0.56	d		43.71	524.93	1.524
3.3	106.629	10.66	1.41	0.10	10.98	0.74	e		41.70	506.89	1.988
4.3	83.625	8.36	1.56	0.09	12.20	0.68	f		48.48	573.54	2.534
6.0	90.680	9.07	1.63	0.14	12.69	1.10	g		41.72	507.02	3.791
8.0	fraction lost										
0.4	64.380	3.88	0.17	0.26	1.34	2.00	h	‡	1.69	300.59	0.363
0.8	195.682	11.78	0.84	0.11	6.53	0.85	i	‡	15.12	348.13	0.308
1.2	206.146	12.41	1.39	0.07	10.88	0.56	j		35.09	455.26	0.460
1.6	207.993	12.52	1.54	0.06	12.06	0.43	k		46.97	557.23	0.798
2.2	172.152	10.36	1.50	0.06	11.69	0.50	l		48.47	573.45	1.218
3.0	204.277	12.29	1.49	0.05	11.66	0.38	m		49.01	579.56	1.682
5.0	212.745	12.79	1.44	0.06	11.21	0.49	n		45.10	538.28	2.482
7.0	160.947	9.67	1.40	0.08	10.91	0.62	o		40.75	498.69	3.192
12.0	238.483	14.32	1.49	0.07	11.66	0.58	p		41.73	507.11	3.635

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^{*}/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^{*}$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
1663.0	1.34	0.03	10.48	0.26	34.48	450.98	1.69

CIC 93 RO J = 0.004341 ± 0.000008

t_p = 11.50 ± 0.18 Ma; weighted mean of fractions j to p, representing 84.36% of ^{39}Ar released in 7 consecutive fractions, MSWD = 0.7

Preferred age t_c = 10.83 ± 0.95 Ma; $(^{40}Ar/^{36}Ar)_i$ = 314 ± 18, MSWD = 1.2 for n = 13

‡ fraction ignored in the isochron given in the figure

† Fraction g from the 1st experiment, was lost during the argon extraction. No integrated age can be calculated, the %^{39}Ar released given is an estimate only. The data were only used in the isochron age calcultaion

SR 15-8
Basaltic trachyandesite lava, interstratified with the El Morro Tuff

Lat N	Long W
27.321388	112.241944

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.6	0.60	36.45	3.29	-7.34	0.84	-58.42	a	‡	-12.88	261.79	0.57
1.2	1.20	77.83	7.02	0.53	0.18	4.17	b	‡	6.81	317.09	1.15
1.8	1.80	149.39	13.48	1.26	0.04	9.84	c		62.99	798.43	1.36
2.5	2.50	196.37	17.72	1.23	0.04	9.63	d		77.39	1307.10	1.48
3.3	3.30	210.67	19.01	1.26	0.03	9.86	e		77.35	1304.73	1.24
4.3	4.30	137.44	12.40	1.22	0.05	9.56	f		64.16	824.56	1.17
6.0	6.00	155.07	13.99	1.25	0.05	9.75	g		48.68	575.82	1.11
8.0	8.00	145.48	13.09	1.00	0.10	7.81	h	‡	21.42	376.05	5.71
0.5	38.714	2.70	-8.59	1.04	-69.15	8.54	i	‡	-13.64	260.03	0.600
1.0	63.358	4.41	0.41	0.28	3.23	2.21	j	‡	4.00	307.81	0.920
1.5	145.650	10.15	1.15	0.08	9.07	0.63	k		41.34	503.72	1.274
2.2	247.718	17.25	1.22	0.03	9.57	0.24	l		74.56	1161.64	1.521
2.9	231.103	16.10	1.26	0.02	9.89	0.18	m		85.17	1992.93	1.392
3.8	217.423	15.15	1.19	0.03	9.41	0.26	n		75.56	1208.84	1.194
4.6	150.953	10.52	1.16	0.04	9.11	0.34	o		59.44	728.54	1.081
5.5	117.063	8.16	1.09	0.11	8.60	0.84	p		41.87	508.35	1.116
6.5	79.998	5.57	1.21	0.07	9.53	0.56	q		40.55	497.02	2.026
7.5	61.069	4.24	1.41	0.17	11.11	1.33	r		35.15	455.66	6.292
12.0	83.044	5.77	1.19	0.14	9.34	1.12	s		22.57	381.62	5.994

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
1109.0	0.88	0.04	6.89	0.34	19.61	367.61	1.83
1436.0	0.90	0.04	7.05	0.33	21.23	375.16	1.78

CIC 93 RO J = 0.004341 ± 0.000008

t_p = 9.75 ± 0.14 Ma; weighted mean of fractions c to g, representing 76.60% of ^{39}Ar released in 5 consecutive fractions, MSWD = 0.19

Preferred age t_c = 9.69 ± 0.12 Ma; $(^{40}Ar/^{36}Ar)_i$ = 291 ± 6, MSWD = 0.97 for n = 14

‡ fraction ignored in the isochron given in the figure

SR 14-1
Upper basaltic andesite lava of Cerro Juanita (coherent interior)

Lat N	Long W
27.314722	112.299444

Laser step-heating experiments with whole rock sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.5	27.93	3.67	-3.83	0.63	-30.24	5.04	a	‡	-8.94	271.24	0.95
1.1	58.47	7.67	1.11	0.15	8.67	1.18	b	‡	24.35	390.62	1.96
1.6	85.66	11.23	1.22	0.07	9.53	0.56	c		58.79	717.05	2.62
2.2	91.38	11.99	1.23	0.05	9.59	0.40	d		73.23	1103.72	2.36
2.8	95.17	12.49	1.22	0.05	9.55	0.39	e		64.55	833.53	1.80
3.6	117.73	15.45	1.32	0.07	10.33	0.55	f		56.37	677.29	1.43
4.5	96.43	12.65	1.17	0.09	9.10	0.69	g		40.63	497.75	1.60
6.0	73.21	9.60	1.33	0.16	10.41	1.27	h		36.05	462.09	3.10
8.0	116.54	15.26	1.04	0.09	8.15	0.70	i	‡	19.59	367.49	5.14
0.4	24.490	2.05	-6.92	1.05	-55.51	8.57	j	‡	-11.54	264.92	0.765
1.0	76.298	6.38	0.21	0.24	1.62	1.92	k	‡	1.79	300.89	1.668
1.5	101.004	8.44	1.33	0.07	10.48	0.54	l		51.03	603.38	2.347
2.0	115.629	9.66	1.29	0.06	10.15	0.48	m		69.41	966.09	2.639
2.6	122.482	10.24	1.27	0.05	9.96	0.37	n		72.10	1059.30	2.276
3.5	162.976	13.62	1.28	0.04	10.09	0.35	o		66.82	890.56	1.746
4.5	163.993	13.71	1.26	0.05	9.88	0.37	p		53.59	636.65	1.381
6.5	174.305	14.57	1.12	0.07	8.86	0.53	q	‡	35.13	455.52	1.540
7.5	63.381	5.30	0.90	0.15	7.10	1.20	r	‡	22.92	383.35	2.565
12.0	192.204	16.03	0.88	0.07	6.95	0.59	s	‡	18.66	363.28	5.365

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
762.50	1.02	0.05	7.98	0.36	22.77	382.60	2.49
1197.0	0.94	0.04	7.33	0.34	20.58	372.07	2.46

CIC 93 RO J = 0.004341 ± 0.000008

Preferred age t_p = 9.66 ± 0.21 Ma

Weighted mean of fractions c to h, representing 73.41% of ^{39}Ar released in 6 consecutive fractions, MSWD = 0.5

t_c = 9.71 ± 0.34 Ma; $(^{40}Ar/^{36}Ar)_i$ = 302 ± 15, MSWD = 0.5 for n = 11

‡ fraction ignored in the isochron given in the figure

SR 14-5
Upper andesite lava of Cerro Montado (block from flow breccia)

Lat N	Long W
27.301388	112.2825

Laser step-heating experiments with whole rock sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.5	24.47	2.60	-12.46	1.57	-100.30	12.97	a	‡	-13.51	260.33	0.421
1.2	62.07	6.59	0.65	0.26	5.10	2.01	b	‡	6.86	317.28	1.058
1.8	88.08	9.35	1.15	0.08	8.95	0.65	c	‡	38.29	478.85	1.500
2.5	135.81	14.41	1.15	0.08	8.97	0.64	d	‡	55.95	670.76	1.390
3.2	117.09	12.43	1.28	0.05	10.02	0.35	e	‡	67.08	897.56	1.286
4.0	112.61	11.95	1.29	0.07	10.10	0.52	f	‡	56.29	676.06	1.179
5.5	174.44	18.52	1.10	0.06	8.62	0.50	g	‡	33.53	444.56	1.048
7.0	109.60	11.63	1.10	0.09	8.59	0.72	h	‡	21.35	375.73	1.753
10.0	118.17	12.52	0.38	0.13	2.96	1.04	i	‡	4.53	309.53	3.883
0.5	24.04	1.96	-12.33	1.49	-99.22	12.29	j	‡	-14.10	258.98	0.65
1.2	62.99	5.14	0.55	0.24	4.32	1.86	k	‡	5.88	313.96	0.79
1.8	91.77	7.48	1.11	0.07	8.68	0.56	l		44.13	528.89	1.36
2.5	131.90	10.75	1.21	0.07	9.44	0.54	m		56.47	678.78	1.68
3.5	177.20	14.44	1.13	0.05	8.87	0.43	n		52.00	615.61	1.57
4.5	167.34	13.64	1.14	0.04	8.94	0.34	o		58.89	718.86	1.41
6.0	238.64	19.46	1.11	0.04	8.66	0.35	p		44.78	535.16	1.26
8.0	173.32	14.13	1.17	0.10	9.15	0.81	q		32.52	437.89	1.35
10.0	90.46	7.37	1.06	0.10	8.32	0.81	r		23.54	386.50	2.41
12.0	69.20	5.63	0.89	0.13	6.93	1.03	s	‡	11.31	333.19	5.80

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
942.30	0.69	0.06	5.36	0.50	10.77	331.18	1.61
1227.0	0.83	0.05	6.48	0.38	16.72	354.82	1.69

CIC 93 RO J = 0.004341 ± 0.000008

Preferred age t_p = 8.84 ± 0.16 Ma

Weighted mean of fractions l to r, representing 87.27% of ^{39}Ar released in 7 consecutive fractions, MSWD = 0.4

t_c = 9.10 ± 0.39 Ma; $(^{40}Ar/^{36}Ar)_i$ = 288 ± 10, MSWD = 0.4 for n = 7 (plateau fractions)

‡ fractions ignored in the isochron given in the figure

SL 08-4
Andesite pyroxene lava from Cerro San Lucas (coherent interior)

Lat N	Long W
27.192278	112.240444

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ			% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.4	27.81	1.29	-3.90	0.93	-30.01	7.19	a	‡	-9.62	269.57	0.39
0.8	129.24	5.98	0.64	0.12	4.90	0.89	b	‡	9.83	327.73	0.58
1.8	303.99	14.06	1.44	0.04	10.96	0.27	c		69.69	974.99	0.79
2.4	336.40	15.56	1.38	0.02	10.48	0.16	d		82.42	1680.57	0.95
3.0	300.37	13.89	1.38	0.02	10.53	0.14	e		88.08	2478.86	1.12
3.8	250.01	11.56	1.31	0.02	10.00	0.13	f		82.38	1676.66	1.22
4.6	290.89	13.45	1.37	0.02	10.44	0.16	g		80.60	1522.82	1.15
5.5	210.32	9.73	1.37	0.03	10.41	0.22	h		75.49	1205.68	1.05
7.0	131.21	6.07	1.42	0.03	10.84	0.23	i		74.19	1145.02	1.53
8.0	50.93	2.35	1.42	0.13	10.80	0.98	j		60.59	749.86	2.52
12.0	131.06	6.05	1.10	0.07	8.37	0.56	k	‡	28.43	412.89	3.75
0.7	66.27	4.24	-0.65	0.31	-4.96	2.38	l	‡	-3.74	284.85	0.40
1.4	168.13	10.74	1.32	0.06	10.04	0.49	m	‡	45.72	544.35	0.79
2.1	295.02	18.85	1.37	0.02	10.42	0.18	n		79.38	1433.02	1.01
2.7	151.61	9.69	1.36	0.03	10.38	0.21	o		88.63	2599.63	1.16
3.5	229.10	14.63	1.37	0.02	10.44	0.13	p		87.16	2301.68	1.46
4.3	167.19	10.68	1.36	0.03	10.34	0.22	q		82.81	1718.74	1.42
5.2	162.60	10.39	1.40	0.03	10.69	0.26	r		84.14	1863.45	1.23
6.0	120.64	7.71	1.42	0.05	10.80	0.35	s		80.07	1483.00	1.27
8.0	118.59	7.57	1.43	0.06	10.86	0.48	t		65.73	862.33	2.25
12.0	86.36	5.51	1.49	0.10	11.37	0.79	u		45.75	544.70	3.25

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
2162.0	1.25	0.02	9.54	0.16	46.82	555.64	1.23
1566.0	1.30	0.02	9.87	0.17	50.25	594.00	1.35

CIC 93 BOO J = 0.004232 ± 0.000018

t_p = 10.48 ± 0.09 Ma; weighted mean of fractions n to u, representing 85.03% of ^{39}Ar released in 8 consecutive fractions, MSWD = 0.6

Preferred age t_c = 10.11 ± 0.14 Ma; $(^{40}Ar/^{36}Ar)_i$ = 336 ± 16, MSWD = 1.2 for n = 16

‡ fraction ignored in the isochron given in the figure

SL 08-1
Trachyandesite hornblende intrusion of Cerro San Lucas

Lat N	Long W
27.18728	112.245441

Laser step-heating experiments with groundmass sample

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ		% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
0.6	51.71	2.34	7.66	2.25	57.57	16.66	a	2.69	303.67	0.56
1.0	95.97	4.34	-4.58	0.48	-35.30	3.77	b	-10.98	266.26	0.58
1.5	219.85	9.94	-0.25	0.12	-1.94	0.95	c	-2.49	288.32	0.57
2.0	217.08	9.82	0.57	0.12	4.32	0.91	d	9.89	327.92	0.52
2.5	197.01	8.91	0.78	0.07	5.95	0.52	e	21.28	375.36	0.49
3.0	169.16	7.65	1.04	0.06	7.95	0.47	f	37.18	470.40	0.47
3.5	164.50	7.44	0.94	0.06	7.13	0.43	g	35.63	459.09	0.48
4.0	132.50	5.99	1.01	0.07	7.71	0.57	h	33.53	444.56	0.51
5.0	156.02	7.06	1.01	0.07	7.67	0.55	i	28.89	415.55	0.57
6.0	183.21	8.28	0.83	0.07	6.30	0.50	j	20.63	372.32	0.84
7.5	241.65	10.93	0.77	0.10	5.90	0.77	k	20.27	370.62	1.14
10.0	382.91	17.30	0.75	0.05	5.71	0.37	l	21.37	375.79	2.15
1.2	114.83	6.63	-2.70	0.86	-20.74	6.64	m	-3.26	286.18	0.56
2.0	257.15	14.85	0.11	0.10	0.87	0.74	n	1.66	300.48	0.53
3.0	305.01	17.62	0.95	0.03	7.21	0.25	o	31.23	429.69	0.46
3.8	207.10	11.96	0.99	0.04	7.56	0.31	p	39.52	488.56	0.46
5.0	124.53	7.19	0.91	0.04	6.93	0.34	q	31.80	433.28	0.50
6.5	250.50	14.46	0.82	0.06	6.26	0.42	r	27.28	406.35	0.81
8.0	294.53	17.00	0.73	0.05	5.55	0.41	s	20.68	372.54	1.56
10.0	178.43	10.29	0.98	0.07	7.44	0.56	t	28.42	412.85	2.78

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
2212.0	0.64	0.10	4.91	0.73	5.13	311.46	0.90
1732. 0	0.53	0.08	4.05	0.58	5.94	314.16	0.96

Laser step-heating experiments with hornblende concentrate

Pwr	$^{39}Ar \times 10^{-6}$	% ^{39}Ar	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ		% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
4.0	50.03	8.87	-3.55	0.62	-27.3	4.81	u	-10.61	267.15	1.74
5.5	96.76	17.11	-0.09	0.23	-0.67	1.73	v	-0.96	292.69	5.16
7.0	219.95	38.89	0.81	0.05	6.18	0.36	w	25.5	396.62	5.35
10.0	198.74	35.13	0.78	0.05	5.95	0.36	x	36.4	464.66	5.73

Integrated results

$^{39}Ar \times 10^{-6}$	$^{40}Ar^*/^{39}Ar_K$	1σ	Age in Ma	1σ	% $^{40}Ar^*$	$^{40}Ar/^{36}Ar$	$^{37}Ar_{Ca}/^{39}Ar_K$
565.50	0.26	0.08	1.98	0.62	3.98	307.75	5.13

SL 08-1 (cont.)
Trachyandesite hornblende intrusion of Cerro San Lucas

Lat N	Long W
27.18728	112.245441

CIC 93 BOO J = 0.004232 ± 0.000018

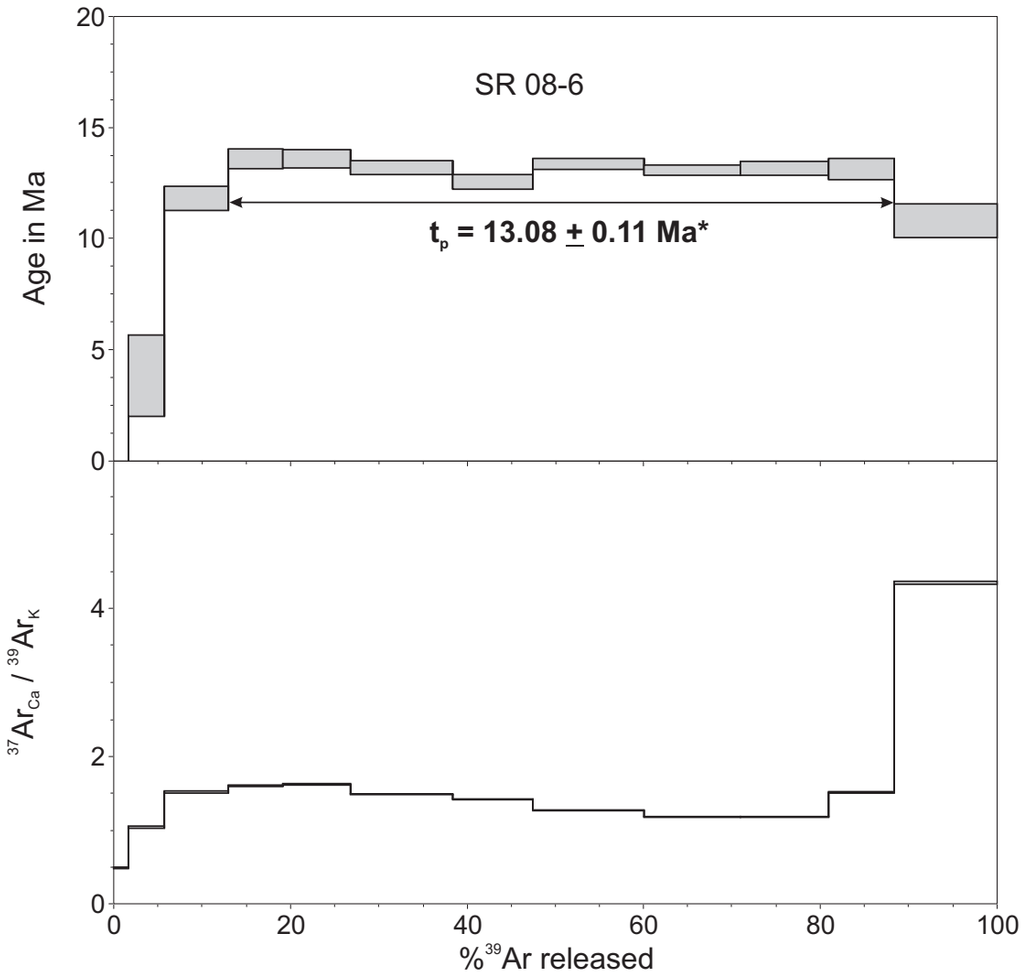
Preferred age W_m = 6.06 ± 0.27 Ma

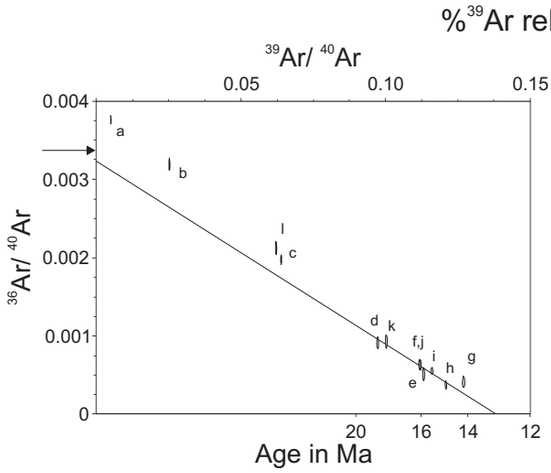
hornblende sample; weighted mean of fractions w and x, representing 74.02% of ^{39}Ar released in 2 consecutive fractions, MSWD = 0.18

t_p = 5.92 ± 0.29 Ma; groundmass sample; weighted mean of fractions j to l, representing 36.51% of ^{39}Ar released in 3 consecutive fractions, MSWD = 0.4

Isochron age combining the groundmass and hornblende data

t_c = 6.01 ± 0.86 Ma; $(^{40}Ar/^{36}Ar)_i$ = 296 ± 13, MSWD = 1.8 for n = 8 (j, k, l, r, s, t, w, x)

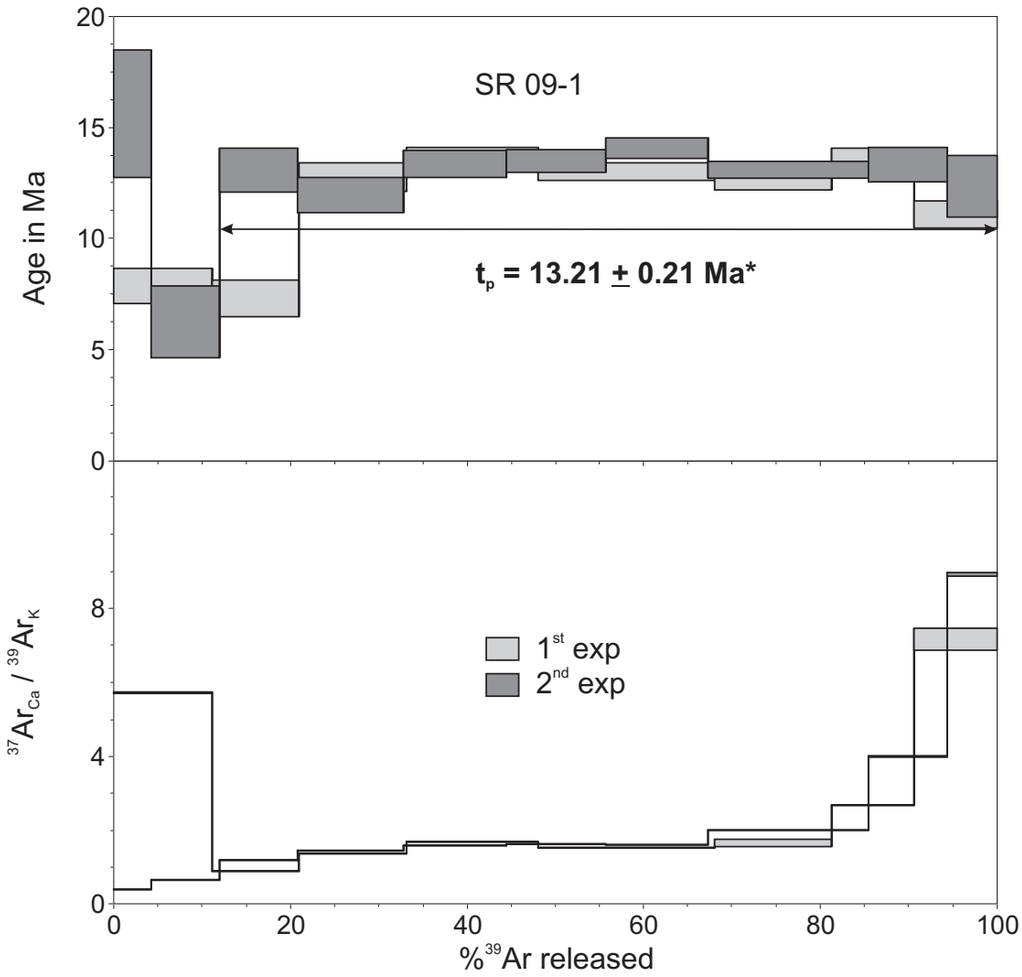


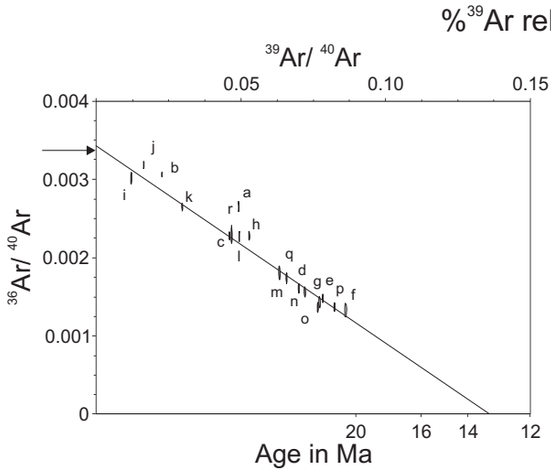


t_c = 13.03 ± 0.36 Ma

(^{40}Ar / ^{36}Ar)$_i$ = 308 ± 37

MSWD = 0.4, n = 7

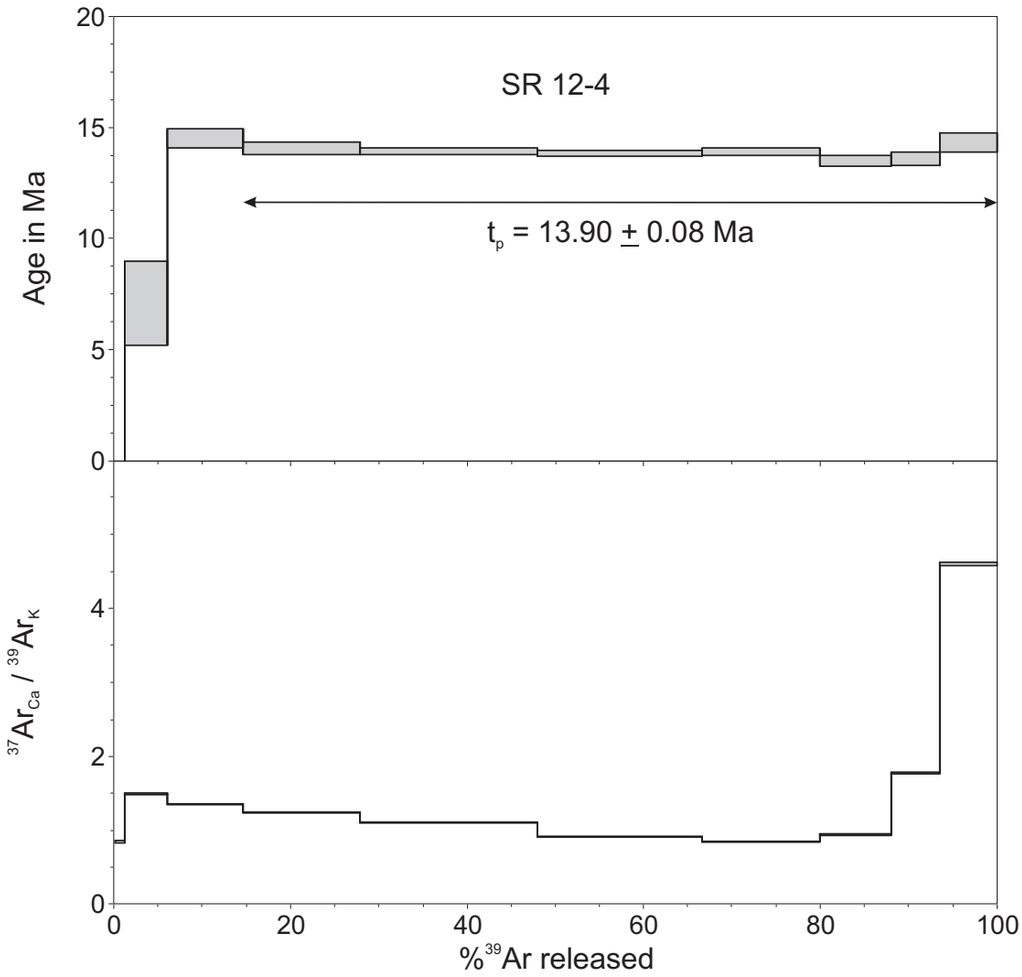


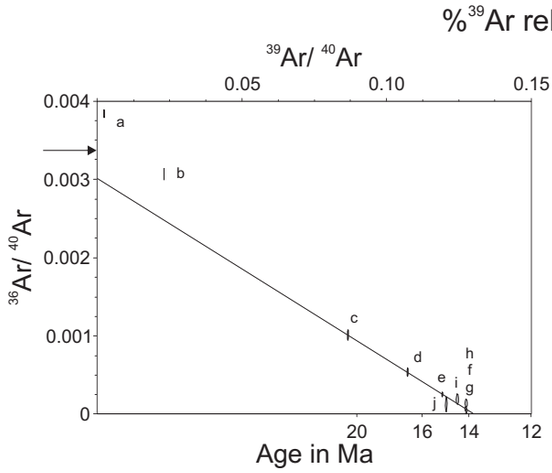


t_c = 13.24 ± 0.33 Ma

(^{40}Ar / ^{36}Ar)$_i$ = 290 ± 6

MSWD = 1.7, n = 15

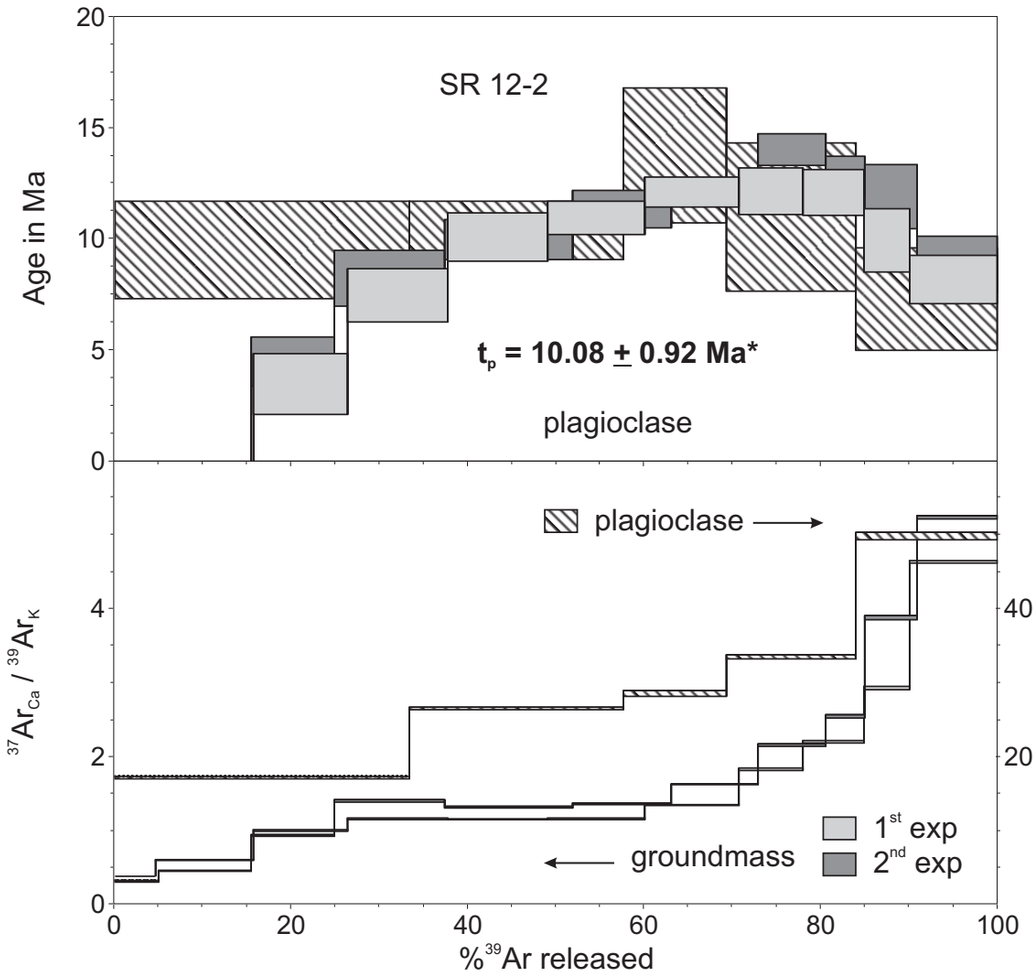


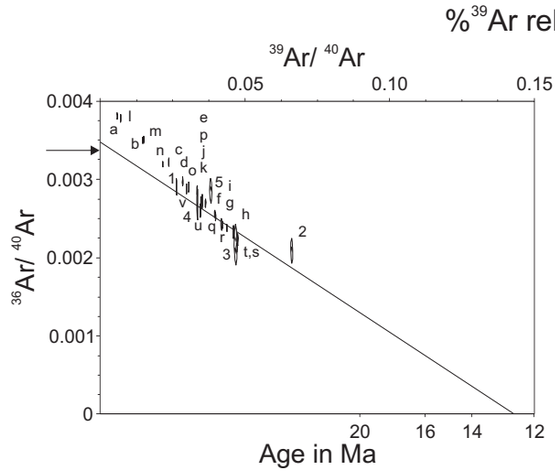


t_c = 13.81 ± 0.10 Ma*

(^{40}Ar / ^{36}Ar)$_i$ = 331 ± 21

MSWD = 0.6, n = 8

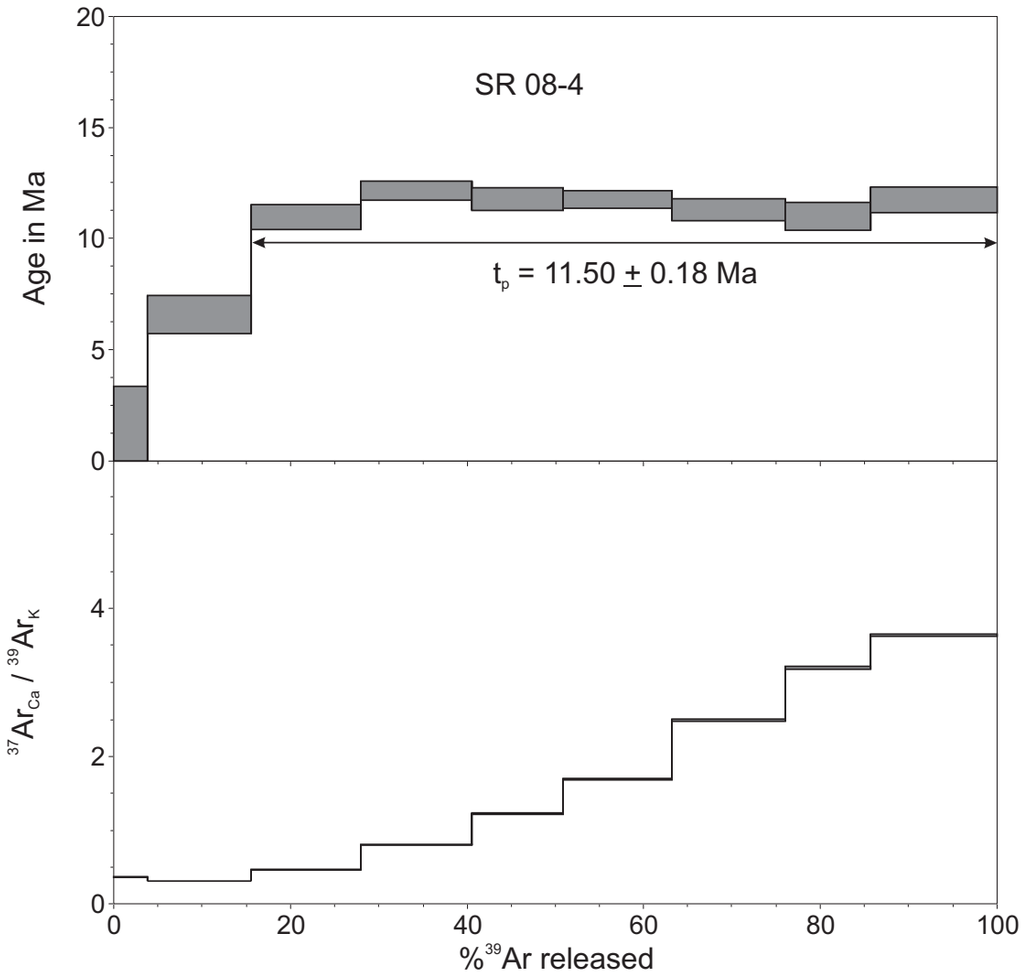


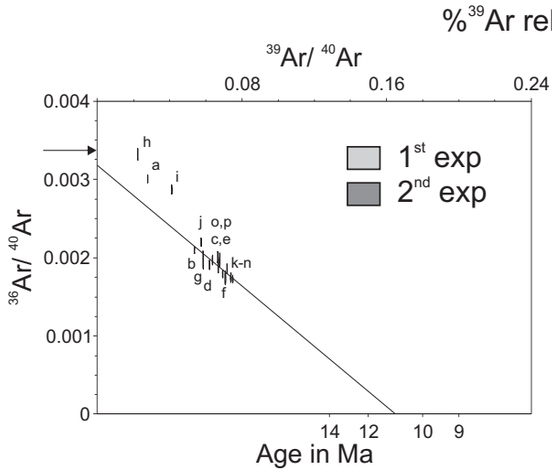


t_c = 12.6 ± 1.6 Ma

(^{40}Ar / ^{36}Ar)$_i$ = 287 ± 15

MSWD = 1.0, n = 10

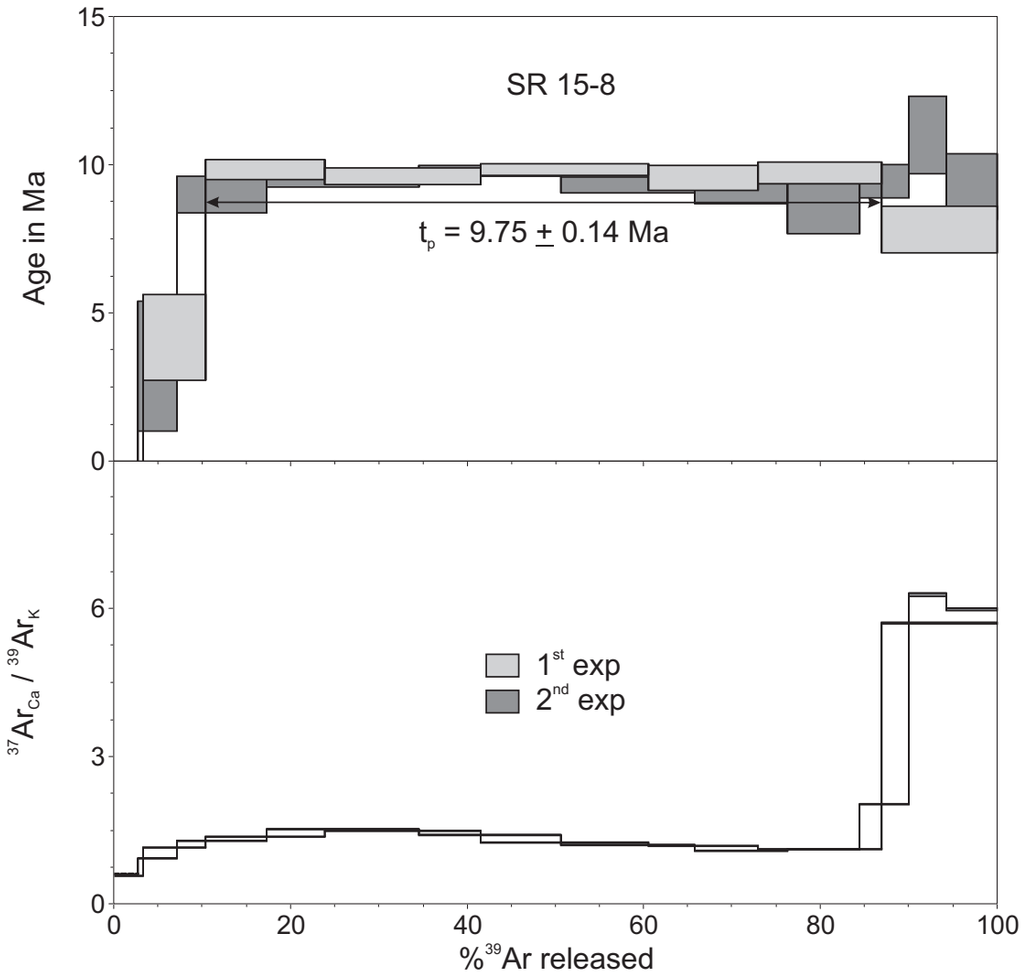


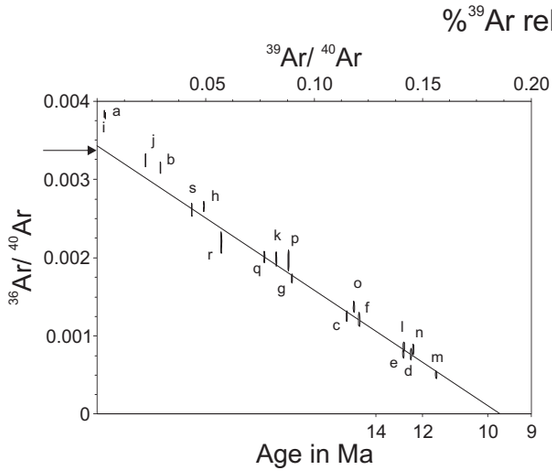


t_c = 10.83 ± 0.95 Ma*

(^{40}Ar / ^{36}Ar)$_i$ = 314 ± 18

MSWD = 1.2, n = 13

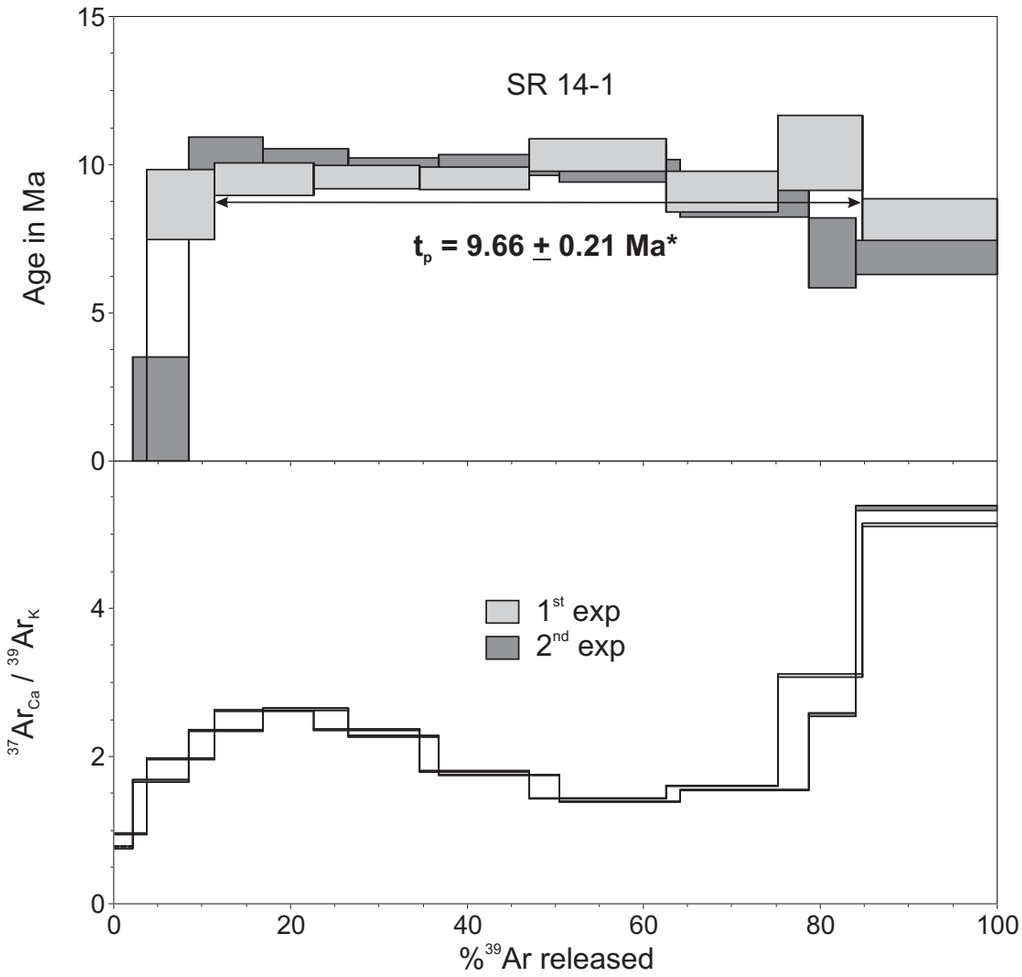


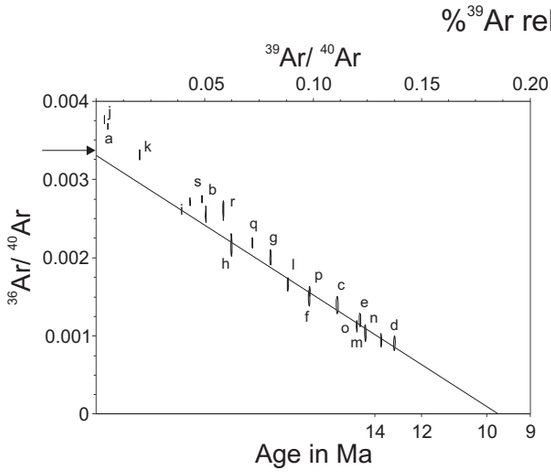


t_c = 9.69 ± 0.12 Ma*

(^{40}Ar / ^{36}Ar)$_i$ = 291 ± 6

MSWD = 0.97, n = 14

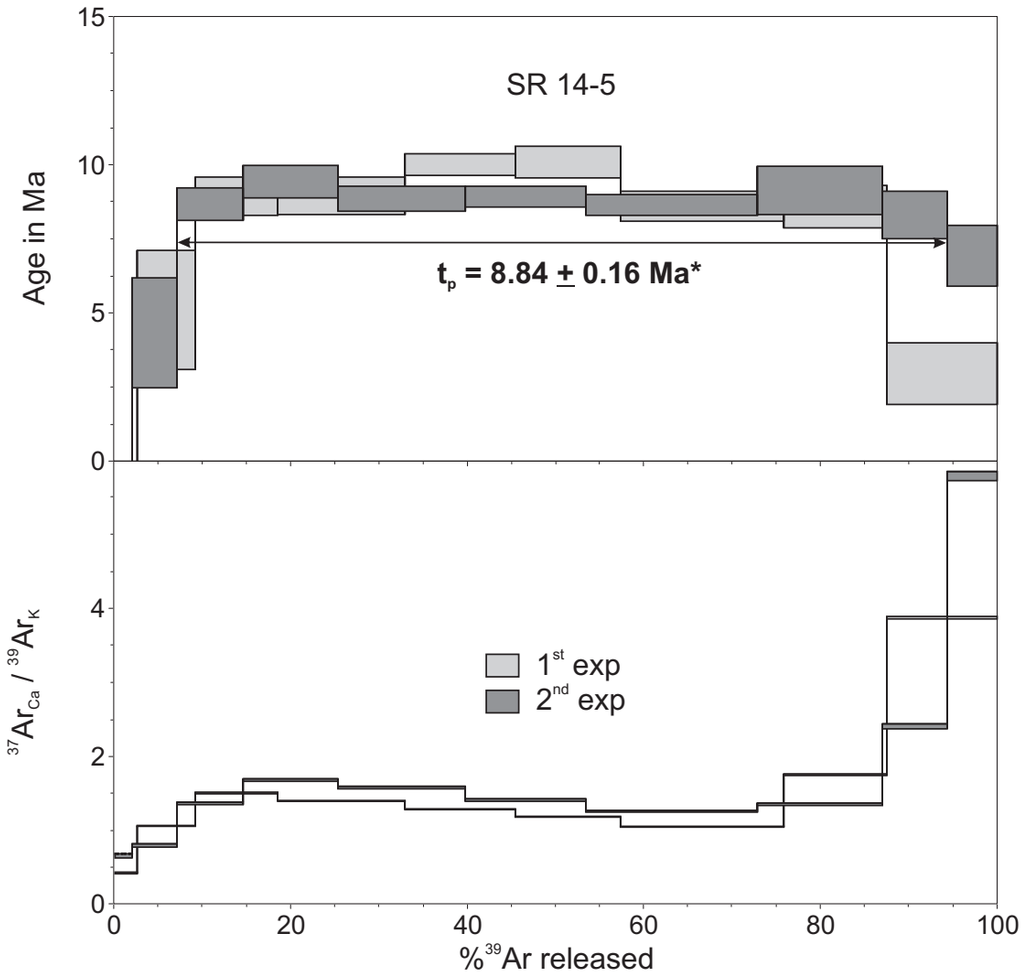


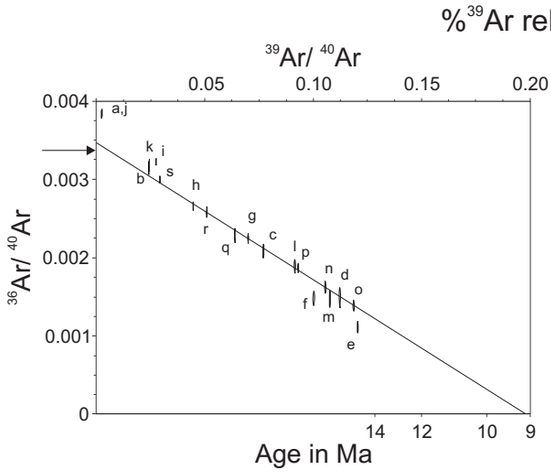


t_c = 9.71 ± 0.34 Ma

(^{40}Ar / ^{36}Ar)$_i$ = 302 ± 15

MSWD = 0.5, n = 11

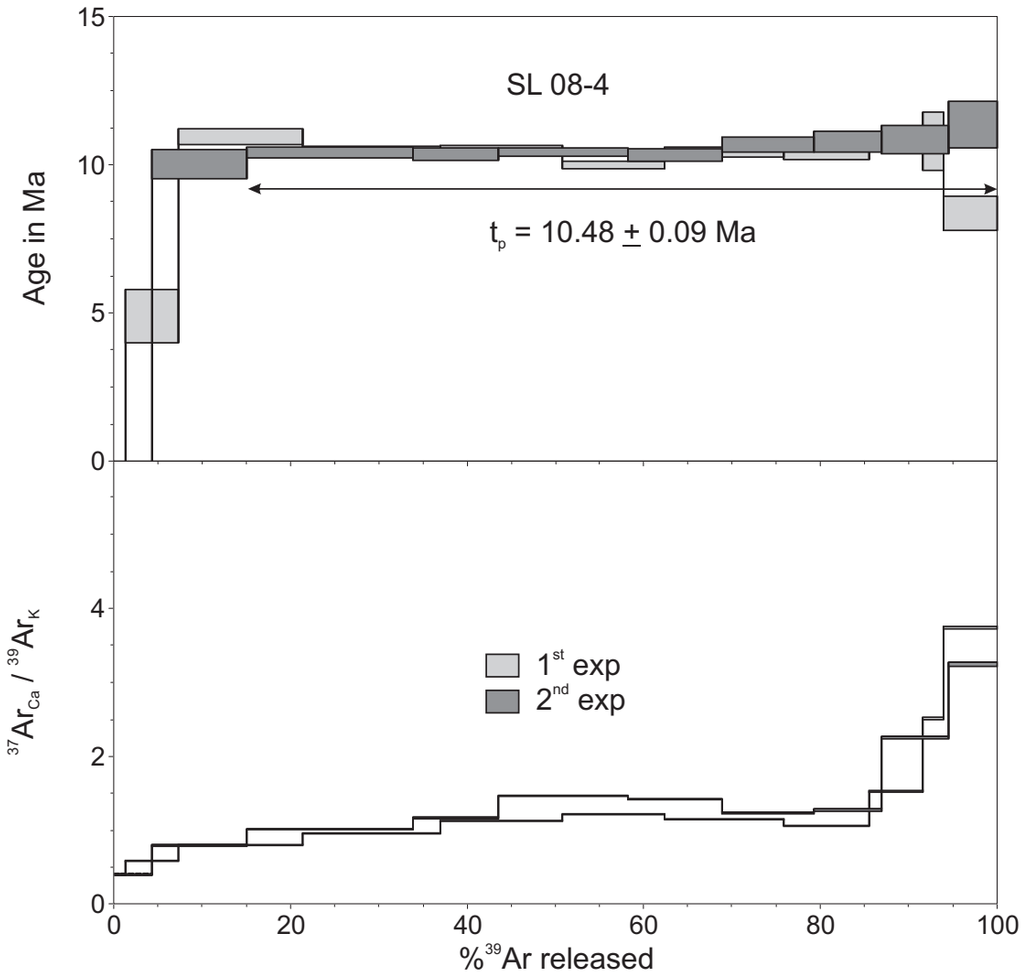


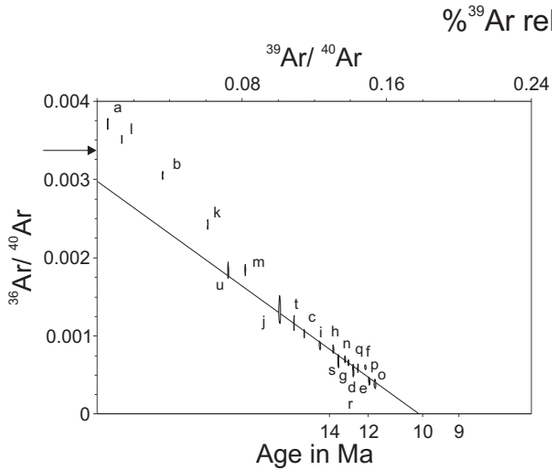


t_c = 9.10 ± 0.39 Ma

(^{40}Ar / ^{36}Ar)$_i$ = 288 ± 10

MSWD = 0.4, n = 7

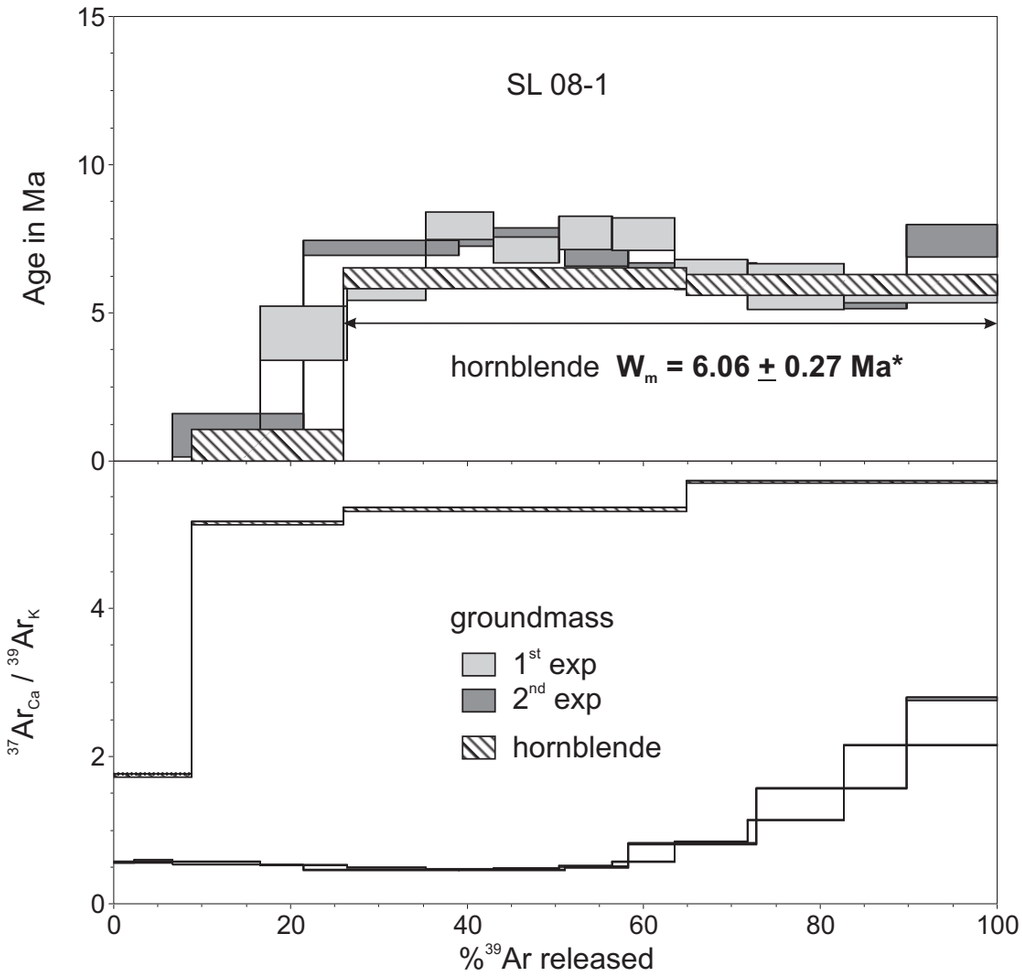


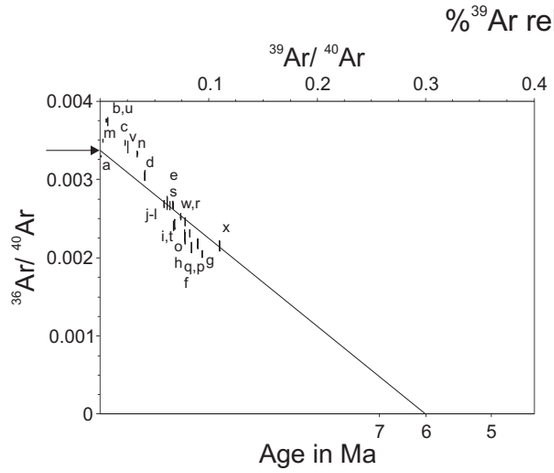


t_c = 10.11 ± 0.14 Ma*

(^{40}Ar / ^{36}Ar)$_i$ = 336 ± 16

MSWD = 1.2, n = 16





t_c = 6.01 ± 0.86 Ma

(^{40}Ar / ^{36}Ar)$_i$ = 296 ± 13

MSWD = 1.8, n = 8