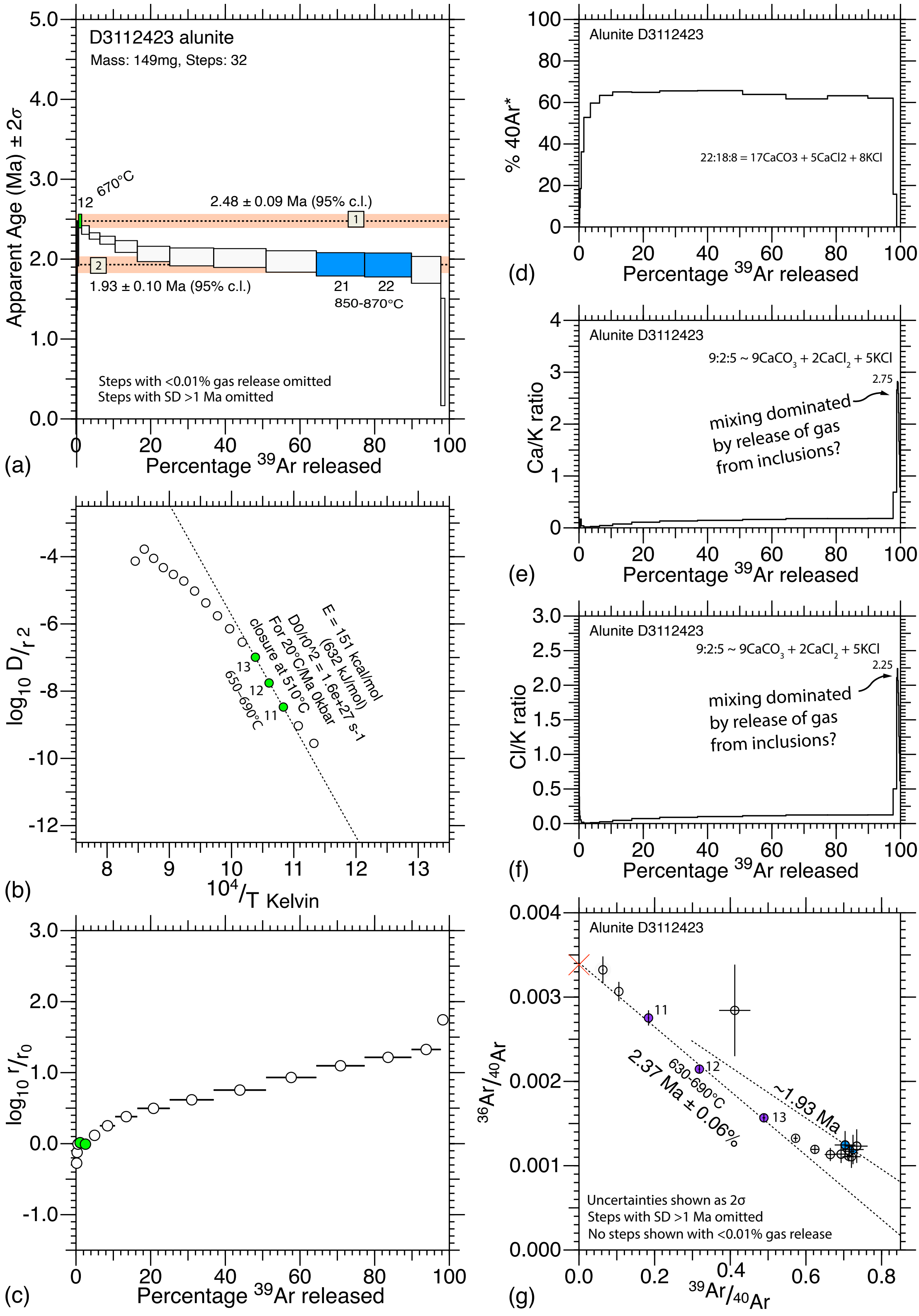
D3112423 alunite
Mass: 149mg, Steps: 32
Apparent Age (Ma) ± 2σ
670°C
12
2.48 ± 0.09 Ma (95% c.l.)
1
2
1.93 ± 0.10 Ma (95% c.l.)
21
22
850-870°C
Steps with <0.01% gas release omitted
Steps with SD >1 Ma omitted
Percentage 39Ar released
(a)
E = 151 kcal/mol
(632 kJ/mol)
D0/r0^2 = 1.6e+27 s-1
For 20°C/Ma 0kbar
closure at 510°C
650–690°C
13
12
11
log10 D/r2
10^4/T Kelvin
(b)
log10 r/r0
Percentage 39Ar released
(c)
Alunite D3112423
% 40Ar*
22:18:8 = 17CaCO3 + 5CaCl2 + 8KCl
Percentage 39Ar released
(d)
Alunite D3112423
9:2:5 ~ 9CaCO3 + 2CaCl2 + 5KCl
2.75
mixing dominated
by release of gas
from inclusions?
Ca/K ratio
Percentage 39Ar released
(e)
Alunite D3112423
9:2:5 ~ 9CaCO3 + 2CaCl2 + 5KCl
2.25
mixing dominated
by release of gas
from inclusions?
Cl/K ratio
Percentage 39Ar released
(f)
Alunite D3112423
11
12
13
630-690°C
2.37 Ma ± 0.06%
~1.93 Ma
36Ar/40Ar
39Ar/40Ar
Uncertainties shown as 2σ
Steps with SD >1 Ma omitted
No steps shown with <0.01% gas release
(g)