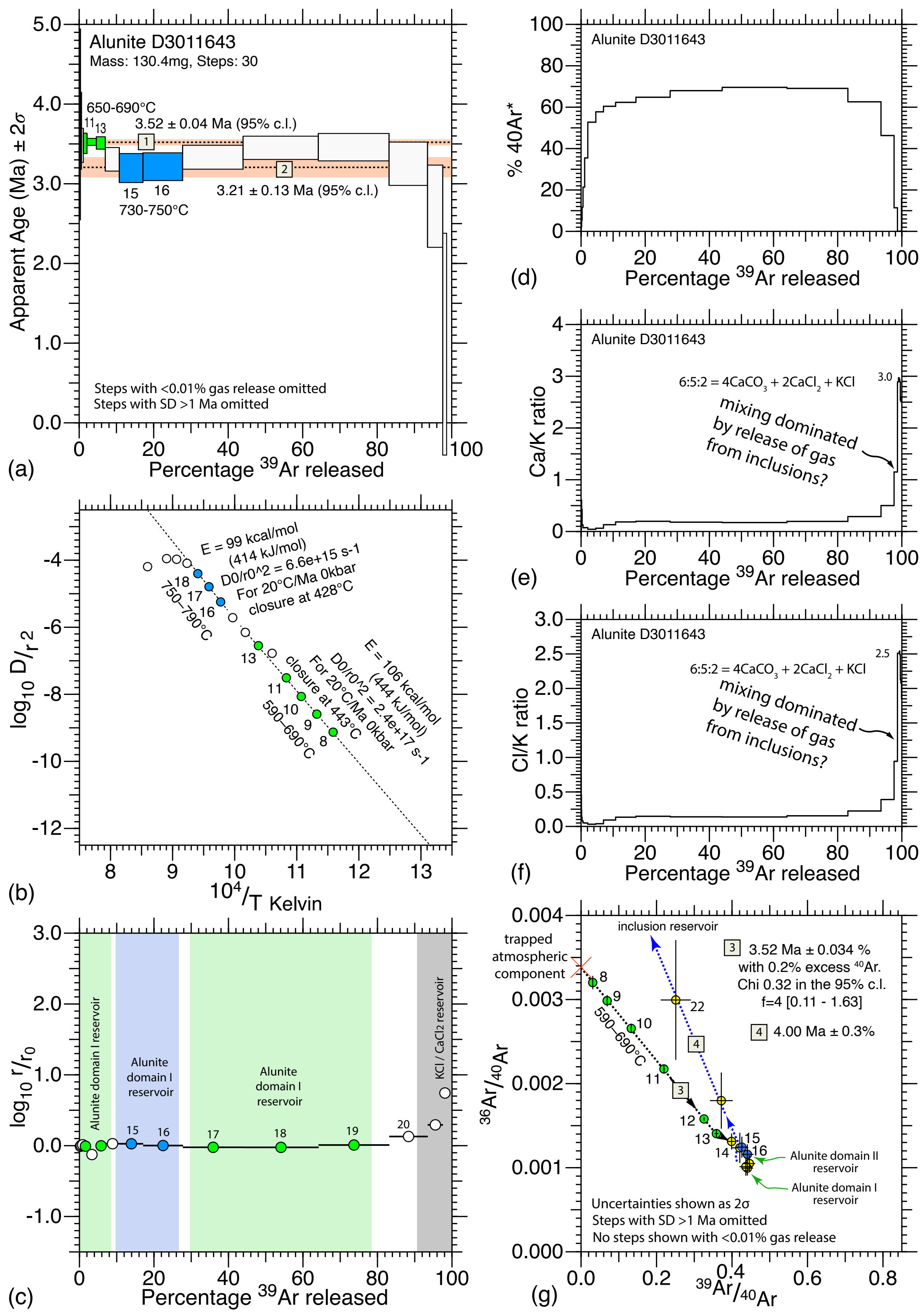
Alunite D3011643
Mass: 130.4mg, Steps: 30
650-690°C
3.52 ± 0.04 Ma (95% c.l.)
730-750°C
3.21 ± 0.13 Ma (95% c.l.)
Steps with <0.01% gas release omitted
Steps with SD >1 Ma omitted
Apparent Age (Ma) ± 2σ
Percentage 39Ar released
(a)
% 40Ar*
(d)
Ca/K ratio
6:5:2 = 4CaCO3 + 2CaCl2 + KCl
mixing dominated by release of gas from inclusions?
(e)
Cl/K ratio
(f)
E = 99 kcal/mol (414 kJ/mol)
D0/r0^2 = 6.6e+15 s-1
For 20°C/Ma 0kbar closure at 428°C
750–790°C
E = 106 kcal/mol (444 kJ/mol)
D0/r0^2 = 2.4e+17 s-1
For 20°C/Ma 0kbar closure at 443°C
590–690°C
log10 D/r2
10^4/T Kelvin
(b)
Alunite domain I reservoir
Alunite domain I reservoir
Alunite domain I reservoir
KCl / CaCl2 reservoir
log10 r/r0
(c)
inclusion reservoir
trapped atmospheric component
3.52 Ma ± 0.034 % with 0.2% excess 40Ar. Chi 0.32 in the 95% c.l. f=4 [0.11 - 1.63]
4.00 Ma ± 0.3%
590–690°C
Alunite domain II reservoir
Alunite domain I reservoir
Uncertainties shown as 2σ
Steps with SD >1 Ma omitted
No steps shown with <0.01% gas release
36Ar/40Ar
39Ar/40Ar
(g)