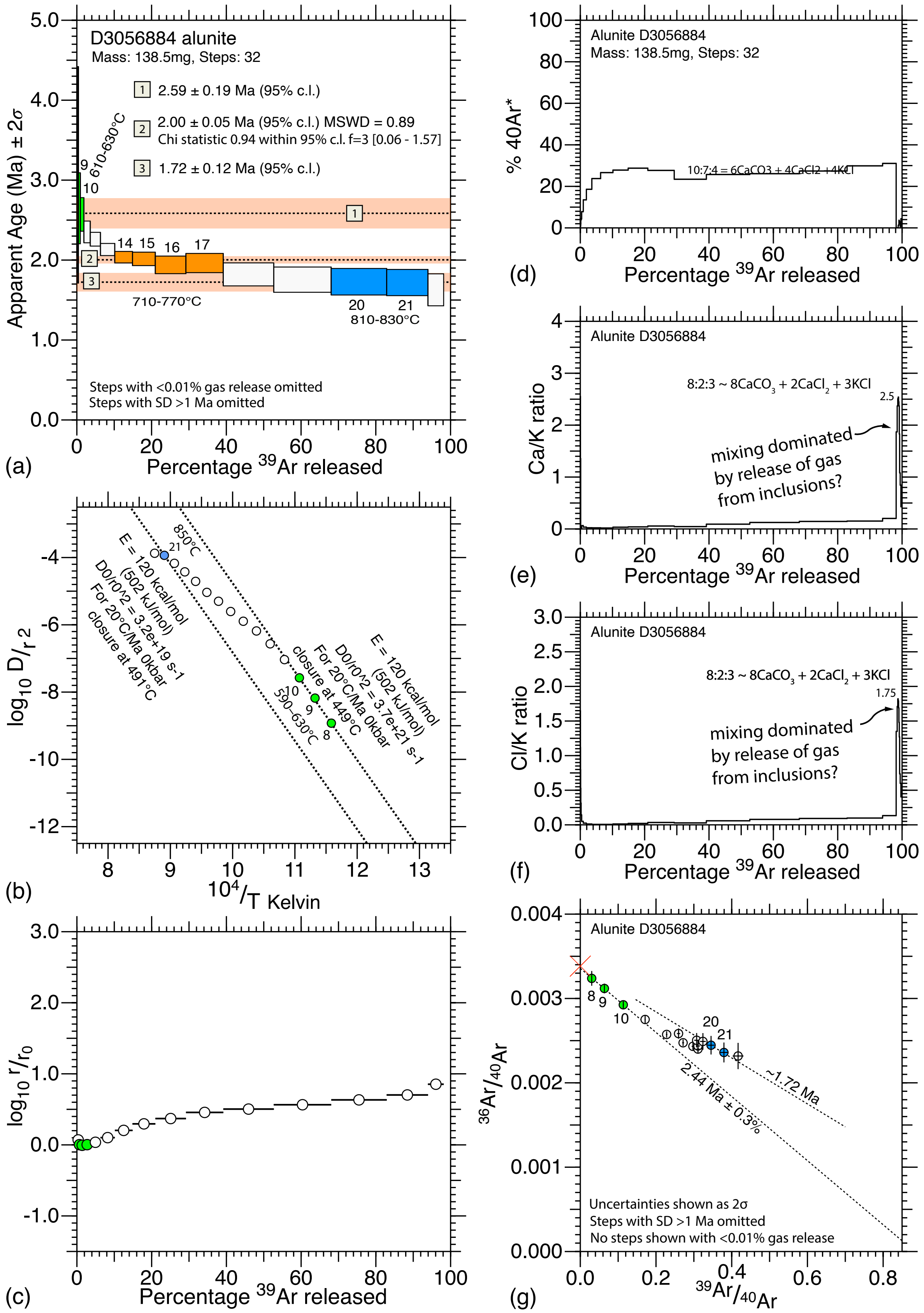
D3056884 alunite
Mass: 138.5mg, Steps: 32
1 2.59 ± 0.19 Ma (95% c.l.)
2 2.00 ± 0.05 Ma (95% c.l.) MSWD = 0.89
Chi statistic 0.94 within 95% c.l. f=3 [0.06 - 1.57]
3 1.72 ± 0.12 Ma (95% c.l.)
610-630°C
710-770°C
810-830°C
Steps with <0.01% gas release omitted
Steps with SD >1 Ma omitted
Apparent Age (Ma) ± 2σ
Percentage 39Ar released
(a)
Alunite D3056884
Mass: 138.5mg, Steps: 32
10:7:4 = 6CaCO3 + 4CaCl2 + 4KCl
% 40Ar*
Percentage 39Ar released
(d)
Alunite D3056884
8:2:3 ~ 8CaCO3 + 2CaCl2 + 3KCl
mixing dominated by release of gas from inclusions?
Ca/K ratio
Percentage 39Ar released
(e)
Alunite D3056884
8:2:3 ~ 8CaCO3 + 2CaCl2 + 3KCl
mixing dominated by release of gas from inclusions?
Cl/K ratio
Percentage 39Ar released
(f)
E = 120 kcal/mol (502 kJ/mol)
D0/r0^2 = 3.2e+19 s-1
For 20°C/Ma 0kbar closure at 491°C
850°C
590–630°C
closure at 449°C
For 20°C/Ma 0kbar
D0/r0^2 = 3.7e+21 s-1
log10 D/r2
10^4/T Kelvin
(b)
log10 r/r0
Percentage 39Ar released
(c)
Alunite D3056884
~1.72 Ma
2.44 Ma ± 0.3%
Uncertainties shown as 2σ
Steps with SD >1 Ma omitted
No steps shown with <0.01% gas release
36Ar/40Ar
39Ar/40Ar
(g)