

# R-matrix parameters in test1b-v9gL-xs2.sfrescoed+.sfresco

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TABLE I: Particle Properties. Masses are in amu, and excitation energies in MeV.

Particle	Mass	Charge	Spin	Parity	$E^*$
H1	1.007825	1	0.5	1	0.0
He3	3.01603	2	0.5	1	0.
He4	4.002603	2	0.0	1	0.0
Li6	6.0151	3	1.0	1	0.

TABLE II: Channel Properties. Q values are in MeV, and radii in fm.

GNDS Label	Projectile	Target	Q value	Radius	Compound	Eliminated
He4 + He3	He4	He3	0.0	4.24151	Be7	False
H1 + Li6	H1	Li6	-4.0198	3.94396	Be7	False

TABLE III: R-matrix parameters in the  $B = -L$  basis.

Pole energies are relative to ground state of composite Be7 system at 1.586 MeV below threshold.

Reduced width amplitudes  $\gamma_c$  in units of  $\text{MeV}^{1/2}$  (cm).

$J^\pi = 1.5^-$					
E	He4+He3	H1+Li6	H1+Li6	H1+Li6	
(MeV)	LS: 1, 1/2	LS: 1, 1/2	LS: 1, 3/2	LS: 3, 3/2	
-3.857983	0.87557	-0.01150	-1.38640	1.06791	
15.318 B	0.16954	-1.39241	-2.26737	-1.02723	
21.586 B	-1.62165	0.69621	0.18995	0.75548	
$J^\pi = 0.5^-$					
E	He4+He3	H1+Li6	H1+Li6		
(MeV)	LS: 1, 1/2	LS: 1, 1/2	LS: 1, 3/2		
-14.826003	1.26282	3.16021	0.71913		
21.586 B	-1.30080	0.02080	-1.29724		
$J^\pi = 3.5^-$					
E	He4+He3	H1+Li6	H1+Li6	H1+Li6	
(MeV)	LS: 3, 1/2	LS: 3, 1/2	LS: 3, 3/2	LS: 5, 3/2	
-10.912503	-3.42797	-1.04027	-9.53490	3.45889	
21.586 B	-2.82985	-0.86921	-3.70608	0.18067	
$J^\pi = 2.5^-$					
E	He4+He3	H1+Li6	H1+Li6	H1+Li6	
(MeV)	LS: 3, 1/2	LS: 1, 3/2	LS: 3, 1/2	LS: 3, 3/2	
7.821897	-0.49320	0.88029	0.63581	-1.19863	
8.644507	0.60011	1.10886	0.95826	-1.97907	
21.586 B	2.29966	-0.05640	-2.71769	1.49483	
$J^\pi = 0.5^+$					
E	He4+He3	H1+Li6	H1+Li6		
(MeV)	LS: 0, 1/2	LS: 0, 1/2	LS: 2, 3/2		
21.586 B	-3.04315	-2.93656	-1.35584		
$J^\pi = 1.5^+$					
E	He4+He3	H1+Li6	H1+Li6	H1+Li6	
(MeV)	LS: 2, 1/2	LS: 0, 3/2	LS: 2, 1/2	LS: 2, 3/2	

TABLE III: R-matrix parameters in the  $B = -L$  basis.  
Pole energies are relative to ground state of composite Be7 system at  
1.586 MeV below threshold.  
Reduced width amplitudes  $\gamma_c$  in units of  $\text{MeV}^{1/2}$  (cm).

14.323297	0.02992	2.00720	0.46536	2.69452
21.586 B	1.78531	-0.41199	1.60477	-0.87334
$J^\pi = 2.5^+$				
E	He4+He3	H1+Li6	H1+Li6	H1+Li6
(MeV)	LS: 2, 1/2	LS: 2, 1/2	LS: 2, 3/2	LS: 4, 3/2
17.088 B	-0.37654	1.29621	0.06419	-6.47263
21.586 B	-1.69761	-1.20948	0.10603	0.12602
$J^\pi = 3.5^+$ (zero for all $L \geq 0$ )				
E				
(MeV)				
$J^\pi = 4.5^-$ (zero for all $L \geq 0$ )				
E				
(MeV)				
$J^\pi = 4.5^+$ (zero for all $L \geq 0$ )				
E				
(MeV)				