

Kinematics Tables

p3Hep3He in CH2			
Q-value 7.28, E = 18.00, Ex = 0.00			
deg	total energy	E - dE	dE
18.9	2.1405e+01	2.1297e+01	1.0803e-01
20.9	2.1087e+01	2.0978e+01	1.0939e-01
23.9	2.0560e+01	2.0448e+01	1.1171e-01
25.9	2.0178e+01	2.0065e+01	1.1347e-01
28.9	1.9562e+01	1.9446e+01	1.1642e-01
30.9	1.9126e+01	1.9008e+01	1.1862e-01
33.9	1.8438e+01	1.8315e+01	1.2227e-01
35.9	1.7958e+01	1.7833e+01	1.2497e-01
38.9	1.7214e+01	1.7085e+01	1.2942e-01
40.9	1.6703e+01	1.6571e+01	1.3267e-01
43.9	1.5921e+01	1.5783e+01	1.3802e-01
45.9	1.5391e+01	1.5249e+01	1.4192e-01
48.9	1.4589e+01	1.4440e+01	1.4830e-01
50.9	1.4051e+01	1.3898e+01	1.5294e-01
53.9	1.3246e+01	1.3085e+01	1.6051e-01
55.9	1.2712e+01	1.2546e+01	1.6600e-01
58.9	1.1919e+01	1.1744e+01	1.7496e-01
60.9	1.1400e+01	1.1219e+01	1.8142e-01
63.9	1.0646e+01	1.0454e+01	1.9181e-01
65.9	1.0156e+01	9.9564e+00	1.9929e-01
68.9	9.4423e+00	9.2309e+00	2.1142e-01
70.9	8.9827e+00	8.7625e+00	2.2014e-01
73.9	8.3192e+00	8.0850e+00	2.3423e-01
75.9	7.8952e+00	7.6509e+00	2.4434e-01
78.9	7.2878e+00	7.0272e+00	2.6064e-01
80.9	6.9024e+00	6.6301e+00	2.7232e-01
83.9	6.3540e+00	6.0629e+00	2.9111e-01
85.9	6.0081e+00	5.7036e+00	3.0455e-01
88.9	5.5186e+00	5.1924e+00	3.2616e-01
90.9	5.2113e+00	4.8697e+00	3.4161e-01
100.9	3.8834e+00	3.4495e+00	4.3395e-01
110.9	2.8197e+00	2.2522e+00	5.6754e-01
120.9	1.7418e+00	8.4207e-01	8.9974e-01

12C3Hep14N in CH2				12C3Hep14N1st in CH2			
Q-value 4.78, E = 18.00, Ex = 0.00				Q-value 4.78, E = 18.00, Ex = 2.31			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	2.1747e+01	2.1640e+01	1.0731e-01	18.9	1.9342e+01	1.9224e+01	1.1828e-01
20.9	2.1687e+01	2.1579e+01	1.0756e-01	20.9	1.9284e+01	1.9166e+01	1.1857e-01
23.9	2.1585e+01	2.1478e+01	1.0798e-01	23.9	1.9188e+01	1.9069e+01	1.1906e-01
25.9	2.1511e+01	2.1403e+01	1.0829e-01	25.9	1.9118e+01	1.8998e+01	1.1943e-01
28.9	2.1390e+01	2.1281e+01	1.0880e-01	28.9	1.9002e+01	1.8882e+01	1.2003e-01
30.9	2.1303e+01	2.1193e+01	1.0917e-01	30.9	1.8920e+01	1.8799e+01	1.2046e-01
33.9	2.1163e+01	2.1053e+01	1.0977e-01	33.9	1.8787e+01	1.8666e+01	1.2117e-01
35.9	2.1063e+01	2.0953e+01	1.1020e-01	35.9	1.8693e+01	1.8571e+01	1.2167e-01
38.9	2.0906e+01	2.0795e+01	1.1089e-01	38.9	1.8544e+01	1.8421e+01	1.2248e-01
40.9	2.0796e+01	2.0685e+01	1.1137e-01	40.9	1.8439e+01	1.8316e+01	1.2305e-01
43.9	2.0624e+01	2.0512e+01	1.1215e-01	43.9	1.8276e+01	1.8152e+01	1.2397e-01
45.9	2.0504e+01	2.0391e+01	1.1269e-01	45.9	1.8162e+01	1.8038e+01	1.2461e-01
48.9	2.0318e+01	2.0205e+01	1.1355e-01	48.9	1.7986e+01	1.7860e+01	1.2561e-01
50.9	2.0190e+01	2.0076e+01	1.1414e-01	50.9	1.7864e+01	1.7738e+01	1.2632e-01
53.9	1.9992e+01	1.9877e+01	1.1508e-01	53.9	1.7677e+01	1.7549e+01	1.2743e-01
55.9	1.9857e+01	1.9741e+01	1.1573e-01	55.9	1.7549e+01	1.7420e+01	1.2819e-01
58.9	1.9649e+01	1.9532e+01	1.1675e-01	58.9	1.7352e+01	1.7222e+01	1.2939e-01
60.9	1.9436e+01	1.9318e+01	1.1781e-01	60.9	1.7148e+01	1.7017e+01	1.3066e-01
63.9	1.9225e+01	1.9106e+01	1.1888e-01	63.9	1.6949e+01	1.6817e+01	1.3193e-01
65.9	1.9082e+01	1.8963e+01	1.1961e-01	65.9	1.6815e+01	1.6682e+01	1.3279e-01
68.9	1.8867e+01	1.8746e+01	1.2074e-01	68.9	1.6611e+01	1.6477e+01	1.3413e-01
70.9	1.8721e+01	1.8600e+01	1.2152e-01	70.9	1.6475e+01	1.6340e+01	1.3505e-01
73.9	1.8502e+01	1.8380e+01	1.2271e-01	73.9	1.6269e+01	1.6132e+01	1.3646e-01
75.9	1.8356e+01	1.8232e+01	1.2352e-01	75.9	1.6131e+01	1.5993e+01	1.3742e-01
78.9	1.8136e+01	1.8011e+01	1.2476e-01	78.9	1.5923e+01	1.5785e+01	1.3889e-01
80.9	1.7989e+01	1.7863e+01	1.2560e-01	80.9	1.5786e+01	1.5646e+01	1.3988e-01
83.9	1.7769e+01	1.7642e+01	1.2688e-01	83.9	1.5579e+01	1.5438e+01	1.4141e-01
85.9	1.7623e+01	1.7496e+01	1.2774e-01	85.9	1.5442e+01	1.5300e+01	1.4244e-01
88.9	1.7406e+01	1.7277e+01	1.2906e-01	88.9	1.5238e+01	1.5094e+01	1.4400e-01
90.9	1.7262e+01	1.7132e+01	1.2995e-01	90.9	1.5103e+01	1.4958e+01	1.4506e-01
100.9	1.6560e+01	1.6426e+01	1.3448e-01	100.9	1.4444e+01	1.4294e+01	1.5047e-01
110.9	1.5895e+01	1.5756e+01	1.3909e-01	110.9	1.3820e+01	1.3664e+01	1.5602e-01
120.9	1.5256e+01	1.5112e+01	1.4386e-01	120.9	1.3213e+01	1.3051e+01	1.6186e-01

12C3Hep14N2nd in CH2				12C3Hep14N3rd in CH2			
Q-value 4.78, E = 18.00, Ex = 3.95				Q-value 4.78, E = 18.00, Ex = 4.92			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	1.7630e+01	1.7503e+01	1.2770e-01	18.9	1.6613e+01	1.6479e+01	1.3412e-01
20.9	1.7575e+01	1.7447e+01	1.2803e-01	20.9	1.6560e+01	1.6425e+01	1.3448e-01
23.9	1.7483e+01	1.7354e+01	1.2859e-01	23.9	1.6469e+01	1.6334e+01	1.3508e-01
25.9	1.7415e+01	1.7286e+01	1.2901e-01	25.9	1.6403e+01	1.6268e+01	1.3553e-01
28.9	1.7304e+01	1.7175e+01	1.2969e-01	28.9	1.6296e+01	1.6159e+01	1.3627e-01
30.9	1.7225e+01	1.7095e+01	1.3018e-01	30.9	1.6218e+01	1.6081e+01	1.3681e-01
33.9	1.7097e+01	1.6966e+01	1.3098e-01	33.9	1.6094e+01	1.5956e+01	1.3768e-01
35.9	1.7007e+01	1.6875e+01	1.3156e-01	35.9	1.6006e+01	1.5867e+01	1.3830e-01
38.9	1.6864e+01	1.6731e+01	1.3248e-01	38.9	1.5866e+01	1.5727e+01	1.3930e-01
40.9	1.6764e+01	1.6630e+01	1.3313e-01	40.9	1.5769e+01	1.5629e+01	1.4001e-01
43.9	1.6607e+01	1.6473e+01	1.3416e-01	43.9	1.5616e+01	1.5475e+01	1.4113e-01
45.9	1.6498e+01	1.6363e+01	1.3489e-01	45.9	1.5510e+01	1.5368e+01	1.4193e-01
48.9	1.6329e+01	1.6193e+01	1.3604e-01	48.9	1.5345e+01	1.5202e+01	1.4318e-01
50.9	1.6212e+01	1.6075e+01	1.3685e-01	50.9	1.5232e+01	1.5088e+01	1.4405e-01
53.9	1.6033e+01	1.5894e+01	1.3811e-01	53.9	1.5057e+01	1.4911e+01	1.4542e-01
55.9	1.5910e+01	1.5771e+01	1.3899e-01	55.9	1.4937e+01	1.4791e+01	1.4638e-01
58.9	1.5721e+01	1.5580e+01	1.4036e-01	58.9	1.4753e+01	1.4606e+01	1.4788e-01
60.9	1.5524e+01	1.5382e+01	1.4182e-01	60.9	1.4561e+01	1.4412e+01	1.4948e-01
63.9	1.5334e+01	1.5191e+01	1.4326e-01	63.9	1.4377e+01	1.4226e+01	1.5105e-01
65.9	1.5206e+01	1.5062e+01	1.4425e-01	65.9	1.4253e+01	1.4100e+01	1.5213e-01
68.9	1.5012e+01	1.4866e+01	1.4578e-01	68.9	1.4064e+01	1.3910e+01	1.5379e-01
70.9	1.4882e+01	1.4735e+01	1.4683e-01	70.9	1.3938e+01	1.3783e+01	1.5494e-01
73.9	1.4685e+01	1.4537e+01	1.4844e-01	73.9	1.3747e+01	1.3590e+01	1.5669e-01
75.9	1.4554e+01	1.4404e+01	1.4954e-01	75.9	1.3620e+01	1.3462e+01	1.5789e-01
78.9	1.4356e+01	1.4205e+01	1.5122e-01	78.9	1.3428e+01	1.3269e+01	1.5973e-01
80.9	1.4225e+01	1.4073e+01	1.5237e-01	80.9	1.3301e+01	1.3140e+01	1.6098e-01
83.9	1.4028e+01	1.3874e+01	1.5411e-01	83.9	1.3111e+01	1.2948e+01	1.6289e-01
85.9	1.3898e+01	1.3743e+01	1.5530e-01	85.9	1.2984e+01	1.2820e+01	1.6418e-01
88.9	1.3704e+01	1.3547e+01	1.5710e-01	88.9	1.2796e+01	1.2630e+01	1.6615e-01
90.9	1.3575e+01	1.3417e+01	1.5831e-01	90.9	1.2672e+01	1.2504e+01	1.6749e-01
100.9	1.2949e+01	1.2785e+01	1.6455e-01	100.9	1.2065e+01	1.1891e+01	1.7432e-01
110.9	1.2354e+01	1.2183e+01	1.7099e-01	110.9	1.1489e+01	1.1307e+01	1.8142e-01
120.9	1.1771e+01	1.1593e+01	1.7787e-01	120.9	1.0919e+01	1.0730e+01	1.8909e-01

12C3Hep14N4th in CH2				12C3Hed13N in CH2			
Q-value 4.78, E = 18.00, Ex = 5.11				Q-value -3.55, E = 18.00, Ex = 0.00			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	1.6412e+01	1.6277e+01	1.3547e-01	18.9	1.3487e+01	1.3210e+01	2.7680e-01
20.9	1.6359e+01	1.6223e+01	1.3584e-01	20.9	1.3412e+01	1.3134e+01	2.7802e-01
23.9	1.6269e+01	1.6133e+01	1.3645e-01	23.9	1.3288e+01	1.3008e+01	2.8007e-01
25.9	1.6203e+01	1.6066e+01	1.3691e-01	25.9	1.3197e+01	1.2916e+01	2.8159e-01
28.9	1.6096e+01	1.5958e+01	1.3766e-01	28.9	1.3049e+01	1.2765e+01	2.8411e-01
30.9	1.6019e+01	1.5881e+01	1.3820e-01	30.9	1.2943e+01	1.2657e+01	2.8595e-01
33.9	1.5895e+01	1.5756e+01	1.3909e-01	33.9	1.2774e+01	1.2485e+01	2.8894e-01
35.9	1.5808e+01	1.5668e+01	1.3972e-01	35.9	1.2654e+01	1.2363e+01	2.9110e-01
38.9	1.5669e+01	1.5528e+01	1.4074e-01	38.9	1.2465e+01	1.2171e+01	2.9457e-01
40.9	1.5572e+01	1.5431e+01	1.4146e-01	40.9	1.2334e+01	1.2037e+01	2.9705e-01
43.9	1.5420e+01	1.5277e+01	1.4261e-01	43.9	1.2128e+01	1.1827e+01	3.0101e-01
45.9	1.5315e+01	1.5171e+01	1.4341e-01	45.9	1.1986e+01	1.1682e+01	3.0382e-01
48.9	1.5151e+01	1.5006e+01	1.4468e-01	48.9	1.1766e+01	1.1458e+01	3.0828e-01
50.9	1.5038e+01	1.4892e+01	1.4557e-01	50.9	1.1616e+01	1.1304e+01	3.1142e-01
53.9	1.4864e+01	1.4717e+01	1.4697e-01	53.9	1.1384e+01	1.1068e+01	3.1640e-01
55.9	1.4745e+01	1.4597e+01	1.4795e-01	55.9	1.1226e+01	1.0906e+01	3.1990e-01
58.9	1.4562e+01	1.4413e+01	1.4947e-01	58.9	1.0984e+01	1.0658e+01	3.2543e-01
60.9	1.4371e+01	1.4220e+01	1.5110e-01	60.9	1.0782e+01	1.0451e+01	3.3021e-01
63.9	1.4188e+01	1.4035e+01	1.5269e-01	63.9	1.0546e+01	1.0210e+01	3.3599e-01
65.9	1.4064e+01	1.3910e+01	1.5379e-01	65.9	1.0388e+01	1.0048e+01	3.3999e-01
68.9	1.3877e+01	1.3721e+01	1.5549e-01	68.9	1.0151e+01	9.8043e+00	3.4622e-01
70.9	1.3751e+01	1.3595e+01	1.5665e-01	70.9	9.9919e+00	9.6414e+00	3.5052e-01
73.9	1.3562e+01	1.3403e+01	1.5844e-01	73.9	9.7544e+00	9.3972e+00	3.5719e-01
75.9	1.3435e+01	1.3275e+01	1.5967e-01	75.9	9.5966e+00	9.2348e+00	3.6178e-01
78.9	1.3245e+01	1.3084e+01	1.6154e-01	78.9	9.3612e+00	8.9923e+00	3.6888e-01
80.9	1.3119e+01	1.2956e+01	1.6281e-01	80.9	9.2055e+00	8.8317e+00	3.7375e-01
83.9	1.2929e+01	1.2765e+01	1.6475e-01	83.9	8.9740e+00	8.5927e+00	3.8127e-01
85.9	1.2804e+01	1.2638e+01	1.6607e-01	85.9	8.8213e+00	8.4349e+00	3.8642e-01
88.9	1.2617e+01	1.2449e+01	1.6808e-01	88.9	8.5950e+00	8.2007e+00	3.9434e-01
90.9	1.2493e+01	1.2324e+01	1.6944e-01	90.9	8.4461e+00	8.0464e+00	3.9976e-01
100.9	1.1891e+01	1.1715e+01	1.7640e-01	100.9	7.7255e+00	7.2969e+00	4.2858e-01
110.9	1.1318e+01	1.1134e+01	1.8365e-01	110.9	7.0326e+00	6.5714e+00	4.6116e-01
120.9	1.0751e+01	1.0559e+01	1.9149e-01	120.9	6.2756e+00	5.7716e+00	5.0400e-01

12C3Hed13N1st in CH2				12C3Hed13N2nd in CH2			
Q-value -3.55, E = 18.00, Ex = 2.36				Q-value -3.55, E = 18.00, Ex = 3.50			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	1.0957e+01	1.0631e+01	3.2605e-01	18.9	9.7151e+00	9.3568e+00	3.5832e-01
20.9	1.0888e+01	1.0561e+01	3.2767e-01	20.9	9.6489e+00	9.2887e+00	3.6024e-01
23.9	1.0773e+01	1.0443e+01	3.3042e-01	23.9	9.5385e+00	9.1750e+00	3.6350e-01
25.9	1.0689e+01	1.0357e+01	3.3246e-01	25.9	9.4577e+00	9.0918e+00	3.6593e-01
28.9	1.0552e+01	1.0216e+01	3.3584e-01	28.9	9.3264e+00	8.9564e+00	3.6996e-01
30.9	1.0454e+01	1.0116e+01	3.3831e-01	30.9	9.2324e+00	8.8595e+00	3.7290e-01
33.9	1.0297e+01	9.9548e+00	3.4235e-01	33.9	9.0822e+00	8.7045e+00	3.7771e-01
35.9	1.0187e+01	9.8413e+00	3.4526e-01	35.9	8.9763e+00	8.5951e+00	3.8119e-01
38.9	1.0012e+01	9.6623e+00	3.4996e-01	38.9	8.8095e+00	8.4227e+00	3.8682e-01
40.9	9.8908e+00	9.5375e+00	3.5332e-01	40.9	8.6933e+00	8.3024e+00	3.9086e-01
43.9	9.7013e+00	9.3426e+00	3.5872e-01	43.9	8.5121e+00	8.1147e+00	3.9734e-01
45.9	9.5704e+00	9.2079e+00	3.6255e-01	45.9	8.3870e+00	7.9850e+00	4.0196e-01
48.9	9.3680e+00	8.9993e+00	3.6867e-01	48.9	8.1935e+00	7.7841e+00	4.0936e-01
50.9	9.2292e+00	8.8562e+00	3.7300e-01	50.9	8.0608e+00	7.6462e+00	4.1460e-01
53.9	9.0158e+00	8.6359e+00	3.7989e-01	53.9	7.8568e+00	7.4338e+00	4.2298e-01
55.9	8.8702e+00	8.4855e+00	3.8475e-01	55.9	7.7177e+00	7.2887e+00	4.2892e-01
58.9	8.6473e+00	8.2548e+00	3.9248e-01	58.9	7.5043e+00	7.0659e+00	4.3840e-01
60.9	8.4675e+00	8.0685e+00	3.9898e-01	60.9	7.3374e+00	6.8913e+00	4.4615e-01
63.9	8.2543e+00	7.8473e+00	4.0700e-01	63.9	7.1360e+00	6.6800e+00	4.5595e-01
65.9	8.1115e+00	7.6990e+00	4.1258e-01	65.9	7.0012e+00	6.5384e+00	4.6277e-01
68.9	7.8971e+00	7.4758e+00	4.2130e-01	68.9	6.7989e+00	6.3254e+00	4.7348e-01
70.9	7.7542e+00	7.3269e+00	4.2734e-01	70.9	6.6643e+00	6.1833e+00	4.8092e-01
73.9	7.5405e+00	7.1038e+00	4.3675e-01	73.9	6.4631e+00	5.9705e+00	4.9256e-01
75.9	7.3988e+00	6.9555e+00	4.4326e-01	75.9	6.3298e+00	5.8291e+00	5.0063e-01
78.9	7.1877e+00	6.7343e+00	4.5338e-01	78.9	6.1313e+00	5.6180e+00	5.1324e-01
80.9	7.0482e+00	6.5878e+00	4.6037e-01	80.9	6.0002e+00	5.4782e+00	5.2198e-01
83.9	6.8410e+00	6.3698e+00	4.7120e-01	83.9	5.8055e+00	5.2699e+00	5.3560e-01
85.9	6.7044e+00	6.2258e+00	4.7867e-01	85.9	5.6773e+00	5.1322e+00	5.4505e-01
88.9	6.5021e+00	6.0118e+00	4.9025e-01	88.9	5.4871e+00	4.9274e+00	5.5978e-01
90.9	6.3689e+00	5.8706e+00	4.9823e-01	90.9	5.3619e+00	4.7919e+00	5.7000e-01
100.9	5.7218e+00	5.1801e+00	5.4173e-01	100.9	4.7509e+00	4.1240e+00	6.2691e-01
110.9	5.0843e+00	4.4900e+00	5.9429e-01	110.9	4.1359e+00	3.4360e+00	6.9991e-01
120.9	4.3243e+00	3.6488e+00	6.7547e-01	120.9	3.3493e+00	2.5184e+00	8.3091e-01

12C3Hed13N3rd in CH2				12C3Hed13N4th in CH2			
Q-value -3.55, E = 18.00, Ex = 3.55				Q-value -3.55, E = 18.00, Ex = 6.36			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	9.6655e+00	9.3058e+00	3.5976e-01	18.9	6.4684e+00	5.9761e+00	4.9224e-01
20.9	9.5994e+00	9.2377e+00	3.6170e-01	20.9	6.4099e+00	5.9141e+00	4.9574e-01
23.9	9.4892e+00	9.1242e+00	3.6498e-01	23.9	6.3125e+00	5.8108e+00	5.0170e-01
25.9	9.4086e+00	9.0411e+00	3.6743e-01	25.9	6.2413e+00	5.7352e+00	5.0616e-01
28.9	9.2775e+00	8.9060e+00	3.7148e-01	28.9	6.1258e+00	5.6122e+00	5.1360e-01
30.9	9.1836e+00	8.8092e+00	3.7445e-01	30.9	6.0431e+00	5.5241e+00	5.1908e-01
33.9	9.0337e+00	8.6544e+00	3.7930e-01	33.9	5.9113e+00	5.3832e+00	5.2810e-01
35.9	8.9280e+00	8.5452e+00	3.8280e-01	35.9	5.8185e+00	5.2838e+00	5.3467e-01
38.9	8.7615e+00	8.3730e+00	3.8848e-01	38.9	5.6723e+00	5.1269e+00	5.4542e-01
40.9	8.6455e+00	8.2530e+00	3.9254e-01	40.9	5.5706e+00	5.0174e+00	5.5320e-01
43.9	8.4646e+00	8.0656e+00	3.9908e-01	43.9	5.4121e+00	4.8463e+00	5.6585e-01
45.9	8.3398e+00	7.9360e+00	4.0374e-01	45.9	5.3027e+00	4.7277e+00	5.7498e-01
48.9	8.1466e+00	7.7354e+00	4.1119e-01	48.9	5.1335e+00	4.5436e+00	5.8981e-01
50.9	8.0142e+00	7.5977e+00	4.1648e-01	50.9	5.0173e+00	4.4168e+00	6.0052e-01
53.9	7.8106e+00	7.3857e+00	4.2493e-01	53.9	4.8384e+00	4.2204e+00	6.1795e-01
55.9	7.6717e+00	7.2408e+00	4.3092e-01	55.9	4.7159e+00	4.0853e+00	6.3059e-01
58.9	7.4587e+00	7.0182e+00	4.4049e-01	58.9	4.5270e+00	3.8757e+00	6.5132e-01
60.9	7.2924e+00	6.8441e+00	4.4830e-01	60.9	4.4050e+00	3.7394e+00	6.6560e-01
63.9	7.0914e+00	6.6332e+00	4.5818e-01	63.9	4.2367e+00	3.5502e+00	6.8657e-01
65.9	6.9570e+00	6.4919e+00	4.6507e-01	65.9	4.1245e+00	3.4231e+00	7.0145e-01
68.9	6.7552e+00	6.2793e+00	4.7586e-01	68.9	3.9566e+00	3.2313e+00	7.2526e-01
70.9	6.6209e+00	6.1375e+00	4.8338e-01	70.9	3.8451e+00	3.1029e+00	7.4218e-01
73.9	6.4202e+00	5.9251e+00	4.9512e-01	73.9	3.6787e+00	2.9094e+00	7.6928e-01
75.9	6.2872e+00	5.7840e+00	5.0328e-01	75.9	3.5686e+00	2.7800e+00	7.8860e-01
78.9	6.0893e+00	5.5733e+00	5.1600e-01	78.9	3.4048e+00	2.5851e+00	8.1968e-01
80.9	5.9585e+00	5.4337e+00	5.2483e-01	80.9	3.2965e+00	2.4545e+00	8.4196e-01
83.9	5.7644e+00	5.2258e+00	5.3859e-01	83.9	3.1354e+00	2.2573e+00	8.7807e-01
85.9	5.6364e+00	5.0883e+00	5.4813e-01	85.9	3.0288e+00	2.1246e+00	9.0420e-01
88.9	5.4468e+00	4.8838e+00	5.6302e-01	88.9	2.8699e+00	1.9228e+00	9.4708e-01
90.9	5.3219e+00	4.7485e+00	5.7336e-01	90.9	2.7643e+00	1.7857e+00	9.7861e-01
100.9	4.7123e+00	4.0814e+00	6.3096e-01	100.9	2.2279e+00	1.0322e+00	1.1956e+00
110.9	4.0981e+00	3.3930e+00	7.0508e-01				
120.9	3.3098e+00	2.4706e+00	8.3915e-01				

12C3He3He12C in CH2				12C3He3He12C1st in CH2			
Q-value 0.00, E = 18.00, Ex = 0.00				Q-value 0.00, E = 18.00, Ex = 4.44			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	1.7001e+01	1.5709e+01	1.2925e+00	18.9	1.2451e+01	1.0777e+01	1.6740e+00
20.9	1.6893e+01	1.5594e+01	1.2992e+00	20.9	1.2352e+01	1.0667e+01	1.6853e+00
23.9	1.6713e+01	1.5402e+01	1.3108e+00	23.9	1.2186e+01	1.0482e+01	1.7046e+00
25.9	1.6580e+01	1.5261e+01	1.3194e+00	25.9	1.2065e+01	1.0346e+01	1.7191e+00
28.9	1.6365e+01	1.5031e+01	1.3336e+00	28.9	1.1868e+01	1.0124e+01	1.7434e+00
30.9	1.6210e+01	1.4866e+01	1.3441e+00	30.9	1.1726e+01	9.9644e+00	1.7613e+00
33.9	1.5962e+01	1.4600e+01	1.3613e+00	33.9	1.1498e+01	9.7074e+00	1.7910e+00
35.9	1.5786e+01	1.4413e+01	1.3737e+00	35.9	1.1337e+01	9.5247e+00	1.8127e+00
38.9	1.5509e+01	1.4115e+01	1.3940e+00	38.9	1.1083e+01	9.2342e+00	1.8484e+00
40.9	1.5315e+01	1.3906e+01	1.4086e+00	40.9	1.0904e+01	9.0297e+00	1.8745e+00
43.9	1.5010e+01	1.3578e+01	1.4321e+00	43.9	1.0624e+01	8.7067e+00	1.9172e+00
45.9	1.4799e+01	1.3350e+01	1.4490e+00	45.9	1.0429e+01	8.4805e+00	1.9483e+00
48.9	1.4470e+01	1.2994e+01	1.4763e+00	48.9	1.0124e+01	8.1244e+00	1.9996e+00
50.9	1.4243e+01	1.2747e+01	1.4958e+00	50.9	9.9124e+00	7.8753e+00	2.0371e+00
53.9	1.3890e+01	1.2363e+01	1.5274e+00	53.9	9.5820e+00	7.4827e+00	2.0993e+00
55.9	1.3647e+01	1.2097e+01	1.5500e+00	55.9	9.3523e+00	7.2070e+00	2.1453e+00
58.9	1.3269e+01	1.1682e+01	1.5868e+00	58.9	8.9916e+00	6.7687e+00	2.2229e+00
60.9	1.3156e+01	1.1558e+01	1.5982e+00	60.9	8.9750e+00	6.7484e+00	2.2267e+00
63.9	1.2820e+01	1.1186e+01	1.6334e+00	63.9	8.6757e+00	6.3787e+00	2.2970e+00
65.9	1.2593e+01	1.0935e+01	1.6580e+00	65.9	8.4745e+00	6.1270e+00	2.3475e+00
68.9	1.2252e+01	1.0555e+01	1.6970e+00	68.9	8.1706e+00	5.7412e+00	2.4294e+00
70.9	1.2023e+01	1.0299e+01	1.7243e+00	70.9	7.9670e+00	5.4784e+00	2.4886e+00
73.9	1.1679e+01	9.9120e+00	1.7673e+00	73.9	7.6602e+00	5.0751e+00	2.5851e+00
75.9	1.1450e+01	9.6526e+00	1.7975e+00	75.9	7.4550e+00	4.7995e+00	2.6555e+00
78.9	1.1106e+01	9.2611e+00	1.8451e+00	78.9	7.1460e+00	4.3742e+00	2.7718e+00
80.9	1.0877e+01	8.9988e+00	1.8785e+00	80.9	6.9391e+00	4.0814e+00	2.8577e+00
83.9	1.0534e+01	8.6029e+00	1.9314e+00	83.9	6.6271e+00	3.6245e+00	3.0025e+00
85.9	1.0306e+01	8.3373e+00	1.9686e+00	85.9	6.4175e+00	3.3052e+00	3.1123e+00
88.9	9.9635e+00	7.9357e+00	2.0278e+00	88.9	6.0996e+00	2.7959e+00	3.3036e+00
90.9	9.7351e+00	7.6652e+00	2.0699e+00	90.9	5.8844e+00	2.4291e+00	3.4553e+00
100.9	8.5727e+00	6.2502e+00	2.3225e+00	100.9	4.7243e+00	2.3895e-01	4.4854e+00
110.9	7.2577e+00	4.5296e+00	2.7282e+00				
120.9	5.0634e+00	7.1248e-01	4.3509e+00				

12C3He3He12C2nd in CH2				12C3Healpha11C in CH2			
Q-value 0.00, E = 18.00, Ex = 7.65				Q-value 1.86, E = 18.00, Ex = 0.00			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	8.9644e+00	6.7353e+00	2.2291e+00	18.9	1.8495e+01	1.6988e+01	1.5066e+00
20.9	8.8719e+00	6.6216e+00	2.2503e+00	20.9	1.8361e+01	1.6846e+01	1.5154e+00
23.9	8.7173e+00	6.4304e+00	2.2869e+00	23.9	1.8139e+01	1.6609e+01	1.5305e+00
25.9	8.6039e+00	6.2893e+00	2.3147e+00	25.9	1.7976e+01	1.6434e+01	1.5417e+00
28.9	8.4190e+00	6.0571e+00	2.3619e+00	28.9	1.7711e+01	1.6151e+01	1.5605e+00
30.9	8.2861e+00	5.8887e+00	2.3974e+00	30.9	1.7521e+01	1.5947e+01	1.5742e+00
33.9	8.0727e+00	5.6153e+00	2.4574e+00	33.9	1.7217e+01	1.5620e+01	1.5969e+00
35.9	7.9213e+00	5.4190e+00	2.5023e+00	35.9	1.7002e+01	1.5389e+01	1.6133e+00
38.9	7.6810e+00	5.1027e+00	2.5783e+00	38.9	1.6663e+01	1.5022e+01	1.6401e+00
40.9	7.5120e+00	4.8766e+00	2.6354e+00	40.9	1.6425e+01	1.4766e+01	1.6594e+00
43.9	7.2453e+00	4.5124e+00	2.7329e+00	43.9	1.6054e+01	1.4363e+01	1.6907e+00
45.9	7.0586e+00	4.2514e+00	2.8072e+00	45.9	1.5797e+01	1.4083e+01	1.7133e+00
48.9	6.7644e+00	3.8281e+00	2.9363e+00	48.9	1.5396e+01	1.3646e+01	1.7498e+00
50.9	6.5582e+00	3.5208e+00	3.0374e+00	50.9	1.5120e+01	1.3344e+01	1.7760e+00
53.9	6.2316e+00	3.0116e+00	3.2200e+00	53.9	1.4692e+01	1.2873e+01	1.8186e+00
55.9	6.0006e+00	2.6299e+00	3.3707e+00	55.9	1.4397e+01	1.2548e+01	1.8493e+00
58.9	5.6292e+00	1.9622e+00	3.6671e+00	58.9	1.3940e+01	1.2040e+01	1.8995e+00
60.9	5.7523e+00	2.1924e+00	3.5599e+00	60.9	1.3826e+01	1.1914e+01	1.9125e+00
63.9	5.4778e+00	1.6629e+00	3.8149e+00	63.9	1.3420e+01	1.1460e+01	1.9606e+00
65.9	5.2925e+00	1.2657e+00	4.0269e+00	65.9	1.3148e+01	1.1154e+01	1.9944e+00
68.9	5.0112e+00	5.7934e-01	4.4318e+00	68.9	1.2738e+01	1.0690e+01	2.0482e+00
70.9	4.8213e+00	2.5457e-01	4.5667e+00	70.9	1.2464e+01	1.0378e+01	2.0861e+00
				73.9	1.2053e+01	9.9072e+00	2.1462e+00
				75.9	1.1780e+01	9.5912e+00	2.1886e+00
				78.9	1.1370e+01	9.1142e+00	2.2561e+00
				80.9	1.1098e+01	8.7941e+00	2.3038e+00
				83.9	1.0690e+01	8.3105e+00	2.3800e+00
				85.9	1.0420e+01	7.9853e+00	2.4343e+00
				88.9	1.0014e+01	7.4920e+00	2.5216e+00
				90.9	9.7427e+00	7.1584e+00	2.5844e+00
				100.9	8.3603e+00	5.3797e+00	2.9806e+00
				110.9	6.7584e+00	3.0282e+00	3.7301e+00

12C3Healpha11C1st in CH2				12C3Healpha11C2nd in CH2			
Q-value 1.86, E = 18.00, Ex = 2.00				Q-value 1.86, E = 18.00, Ex = 4.32			
deg	total energy	E - dE	dE	deg	total energy	E - dE	dE
18.9	1.6589e+01	1.4943e+01	1.6460e+00	18.9	1.4332e+01	1.2476e+01	1.8562e+00
20.9	1.6460e+01	1.4804e+01	1.6565e+00	20.9	1.4208e+01	1.2338e+01	1.8697e+00
23.9	1.6245e+01	1.4570e+01	1.6745e+00	23.9	1.4001e+01	1.2108e+01	1.8926e+00
25.9	1.6087e+01	1.4399e+01	1.6879e+00	25.9	1.3849e+01	1.1939e+01	1.9099e+00
28.9	1.5830e+01	1.4120e+01	1.7103e+00	28.9	1.3601e+01	1.1663e+01	1.9387e+00
30.9	1.5646e+01	1.3919e+01	1.7268e+00	30.9	1.3424e+01	1.1464e+01	1.9601e+00
33.9	1.5351e+01	1.3597e+01	1.7540e+00	33.9	1.3140e+01	1.1145e+01	1.9955e+00
35.9	1.5143e+01	1.3369e+01	1.7738e+00	35.9	1.2939e+01	1.0918e+01	2.0214e+00
38.9	1.4813e+01	1.3007e+01	1.8063e+00	38.9	1.2622e+01	1.0558e+01	2.0640e+00
40.9	1.4583e+01	1.2754e+01	1.8298e+00	40.9	1.2401e+01	1.0305e+01	2.0952e+00
43.9	1.4223e+01	1.2355e+01	1.8680e+00	43.9	1.2053e+01	9.9066e+00	2.1463e+00
45.9	1.3973e+01	1.2078e+01	1.8957e+00	45.9	1.1811e+01	9.6277e+00	2.1836e+00
48.9	1.3584e+01	1.1644e+01	1.9408e+00	48.9	1.1435e+01	9.1897e+00	2.2451e+00
50.9	1.3316e+01	1.1342e+01	1.9734e+00	50.9	1.1174e+01	8.8839e+00	2.2902e+00
53.9	1.2898e+01	1.0872e+01	2.0268e+00	53.9	1.0768e+01	8.4029e+00	2.3651e+00
55.9	1.2610e+01	1.0545e+01	2.0657e+00	55.9	1.0486e+01	8.0658e+00	2.4206e+00
58.9	1.2162e+01	1.0032e+01	2.1299e+00	58.9	1.0046e+01	7.5311e+00	2.5144e+00
60.9	1.2087e+01	9.9457e+00	2.1412e+00	60.9	1.0027e+01	7.5086e+00	2.5186e+00
63.9	1.1698e+01	9.4963e+00	2.2017e+00	63.9	9.6583e+00	7.0535e+00	2.6048e+00
65.9	1.1437e+01	9.1925e+00	2.2447e+00	65.9	9.4108e+00	6.7438e+00	2.6670e+00
68.9	1.1044e+01	8.7311e+00	2.3134e+00	68.9	9.0380e+00	6.2698e+00	2.7682e+00
70.9	1.0782e+01	8.4198e+00	2.3623e+00	70.9	8.7887e+00	5.9470e+00	2.8416e+00
73.9	1.0388e+01	7.9476e+00	2.4407e+00	73.9	8.4140e+00	5.4518e+00	2.9622e+00
75.9	1.0126e+01	7.6291e+00	2.4967e+00	75.9	8.1638e+00	5.1132e+00	3.0506e+00
78.9	9.7325e+00	7.1457e+00	2.5868e+00	78.9	7.7880e+00	4.5902e+00	3.1977e+00
80.9	9.4707e+00	6.8191e+00	2.6516e+00	80.9	7.5369e+00	4.2294e+00	3.3075e+00
83.9	9.0781e+00	6.3213e+00	2.7568e+00	83.9	7.1588e+00	3.6642e+00	3.4946e+00
85.9	8.8163e+00	5.9831e+00	2.8332e+00	85.9	6.9053e+00	3.2668e+00	3.6384e+00
88.9	8.4227e+00	5.4635e+00	2.9592e+00	88.9	6.5212e+00	2.6272e+00	3.8941e+00
90.9	8.1590e+00	5.1066e+00	3.0524e+00	90.9	6.2614e+00	2.1597e+00	4.1017e+00
100.9	6.7879e+00	3.0767e+00	3.7112e+00				

12C3Healpha11C3rd in CH2			
Q-value 1.86, E = 18.00, Ex = 6.34			
deg	total energy	E - dE	dE
18.9	1.2310e+01	1.0202e+01	2.1082e+00
20.9	1.2190e+01	1.0064e+01	2.1258e+00
23.9	1.1989e+01	9.8334e+00	2.1560e+00
25.9	1.1843e+01	9.6638e+00	2.1787e+00
28.9	1.1603e+01	9.3864e+00	2.2171e+00
30.9	1.1432e+01	9.1864e+00	2.2456e+00
33.9	1.1157e+01	8.8643e+00	2.2932e+00
35.9	1.0963e+01	8.6350e+00	2.3283e+00
38.9	1.0656e+01	8.2694e+00	2.3867e+00
40.9	1.0441e+01	8.0112e+00	2.4299e+00
43.9	1.0103e+01	7.6018e+00	2.5016e+00
45.9	9.8684e+00	7.3136e+00	2.5548e+00
48.9	9.5009e+00	6.8570e+00	2.6439e+00
50.9	9.2456e+00	6.5349e+00	2.7106e+00
53.9	8.8459e+00	6.0216e+00	2.8243e+00
55.9	8.5671e+00	5.6557e+00	2.9113e+00
58.9	8.1268e+00	5.0625e+00	3.0643e+00
60.9	8.1765e+00	5.1306e+00	3.0459e+00
63.9	7.8245e+00	4.6419e+00	3.1826e+00
65.9	7.5881e+00	4.3038e+00	3.2843e+00
68.9	7.2314e+00	3.7750e+00	3.4564e+00
70.9	6.9924e+00	3.4052e+00	3.5871e+00
73.9	6.6321e+00	2.8173e+00	3.8148e+00
75.9	6.3906e+00	2.3963e+00	3.9943e+00
78.9	6.0260e+00	1.7024e+00	4.3236e+00
80.9	5.7808e+00	1.1820e+00	4.5988e+00
83.9	5.4085e+00	4.0880e-01	4.9997e+00