

Table S2 Energy (in cm^{-1}) of the dimer in the lowest rovibrational states of A_2^- (top) and A_1^+ (bottom) symmetry and with $J \leq 6$ (for the triplet electronic state)

| J = 0 | J = 1 | J = 2 | J = 3 | J = 4 | J = 5 | J = 6 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| -76.22141 | -103.4123 | -102.9030 | -102.6674 | -101.8586 | -101.3270 | -100.2184 |
| -50.85523 | -96.39642 | -89.11849 | -95.62741 | -91.12632 | -94.24460 | -89.49980 |
| -43.58683 | -82.94598 | -86.52209 | -95.16277 | -88.16413 | -93.84563 | -86.66872 |
| -40.34633 | -76.53263 | -83.76292 | -86.47069 | -85.57586 | -85.21746 | -84.06941 |
| -27.35759 | -75.52197 | -80.11519 | -82.23880 | -82.74604 | -82.08815 | -81.16933 |
| -24.74617 | -73.14967 | -75.75328 | -79.27878 | -81.07645 | -80.96536 | -79.37198 |
| -18.45093 | -70.48418 | -72.44615 | -76.43163 | -79.11591 | -79.97012 | -77.53987 |
| -13.09250 | -67.42361 | -70.56277 | -74.41854 | -74.66378 | -78.00188 | -74.00769 |
| -11.66806 | -65.03093 | -68.30843 | -74.21472 | -73.62077 | -75.72455 | -72.96004 |
| -4.805962 | -63.54454 | -65.31030 | -72.48693 | -71.50157 | -73.02583 | -72.10329 |
| -106.0909 | -103.4148 | -105.6458 | -102.6820 | -104.6083 | -101.3640 | -102.9812 |
| -84.88723 | -83.10047 | -102.9030 | -95.16275 | -101.8574 | -93.84565 | -100.2130 |
| -77.72331 | -82.20144 | -89.12233 | -86.47173 | -91.12634 | -85.22490 | -89.49978 |
| -71.50700 | -75.80011 | -86.52191 | -82.81652 | -88.17456 | -82.08916 | -86.68316 |
| -67.16198 | -70.49865 | -84.46826 | -81.06933 | -85.57367 | -81.97673 | -84.06281 |
| -61.38559 | -67.43465 | -83.67940 | -79.27331 | -83.47709 | -79.97009 | -81.90310 |
| -57.97289 | -65.02189 | -80.11519 | -75.05937 | -82.48984 | -79.36599 | -80.68216 |
| -52.36367 | -60.00106 | -77.34450 | -74.41624 | -81.07585 | -77.96145 | -79.36638 |
| -51.24734 | -58.65592 | -72.44798 | -69.80653 | -79.11554 | -73.73722 | -77.53731 |
| -49.38747 | -54.93837 | -71.30296 | -68.53343 | -76.45937 | -73.01387 | -75.06566 |