

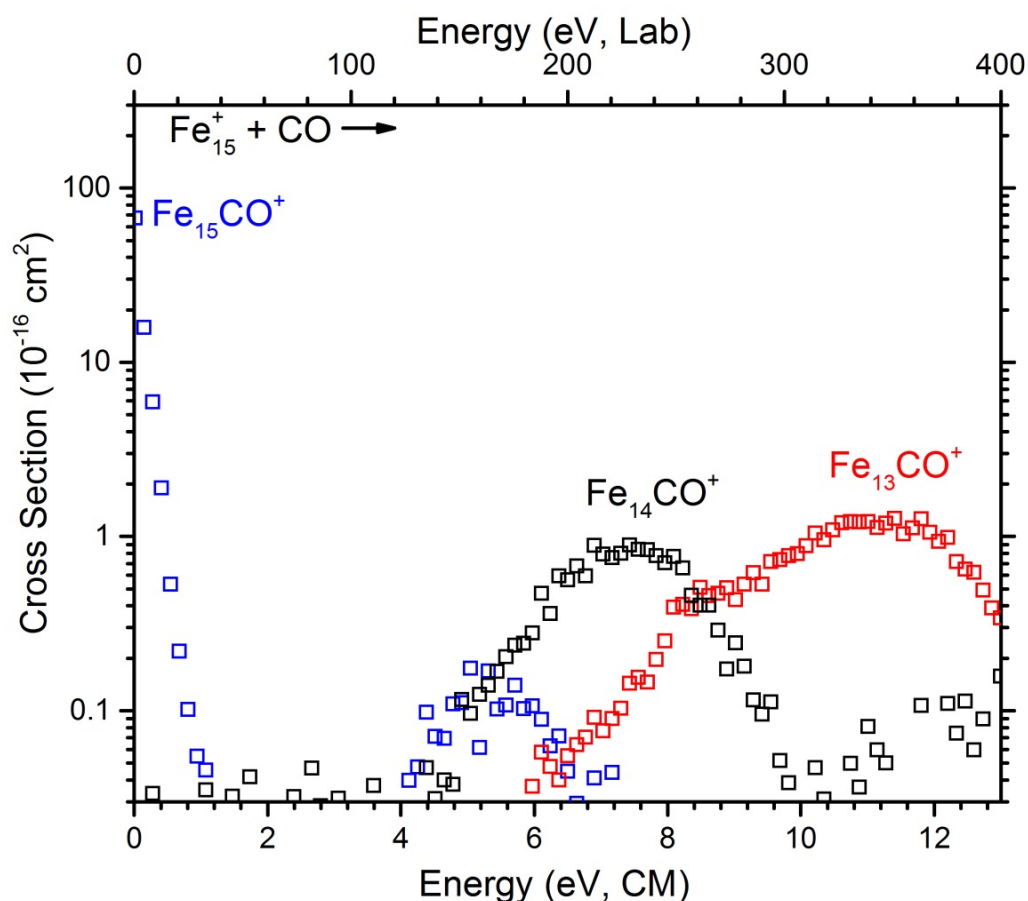
Electronic Supplementary Material

For

Iron Cluster – CO Bond Energies from the Kinetic Energy Dependence of the  
 $\text{Fe}_n^+ (n = 4 - 17) + \text{CO}$  Association Reactions

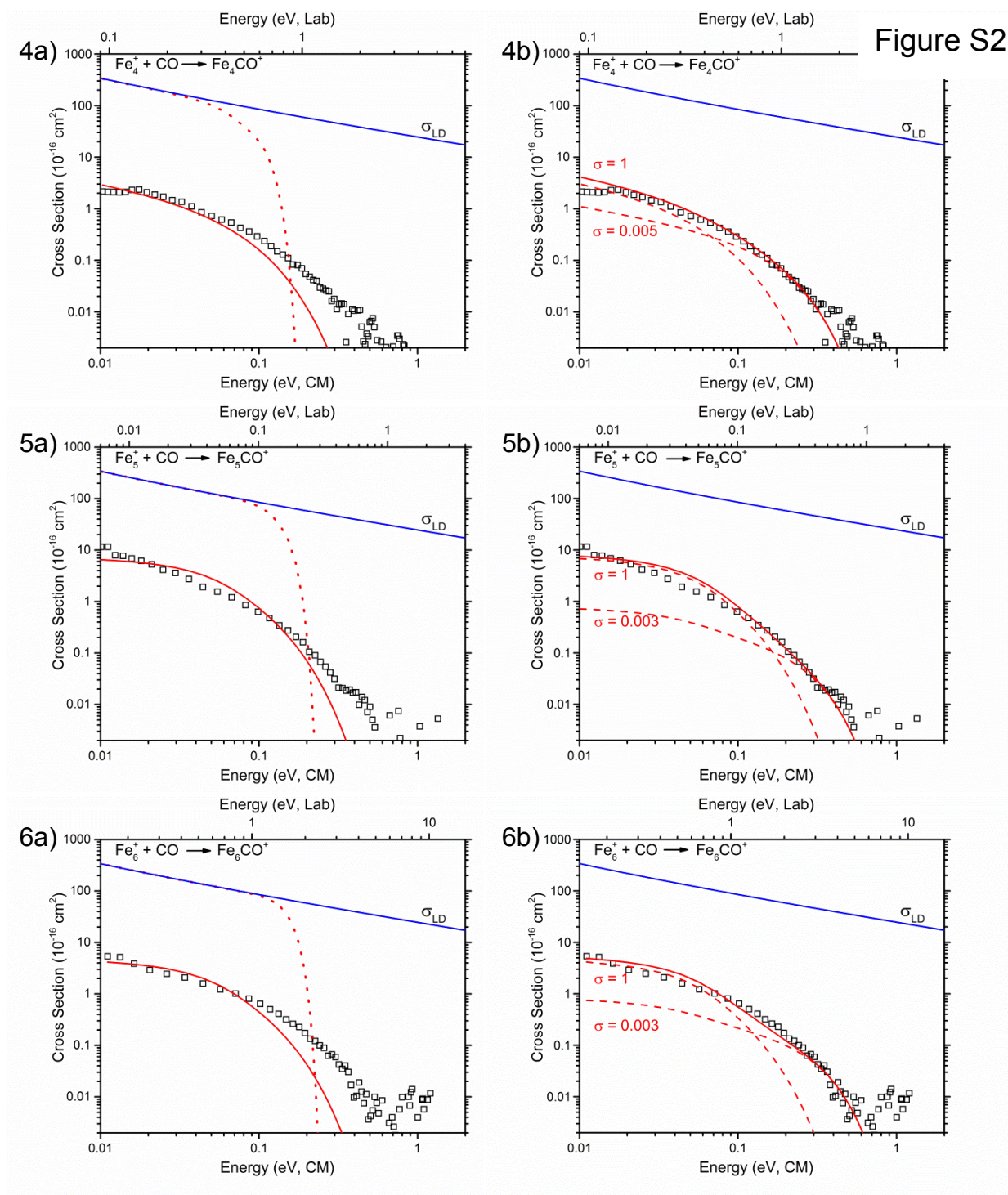
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**Fig. S1.** Experimental cross sections for the reaction of  $\text{Fe}_{15}^+$  with CO as a function of kinetic energy in the lab frame (upper axis) and center-of-mass frame (lower axis).

Figure S2





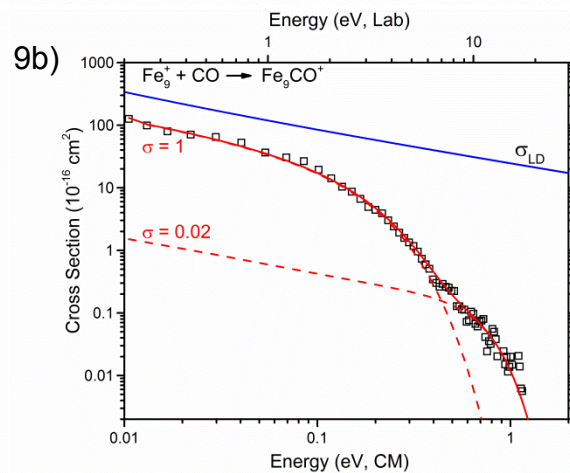
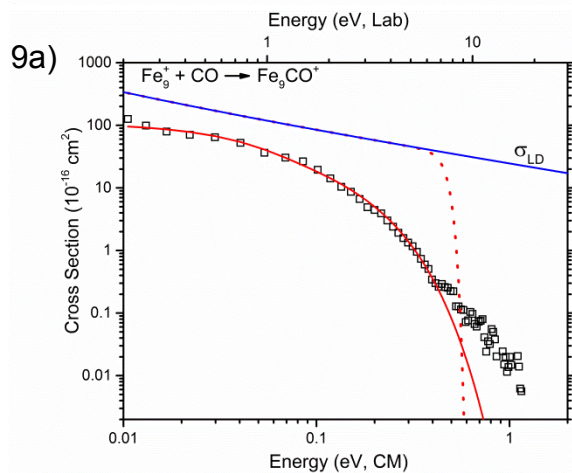
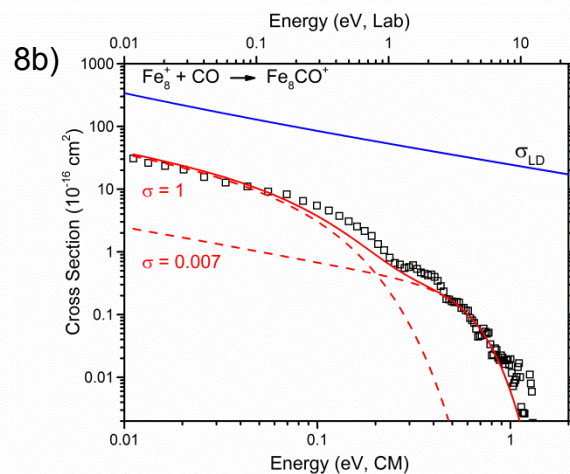
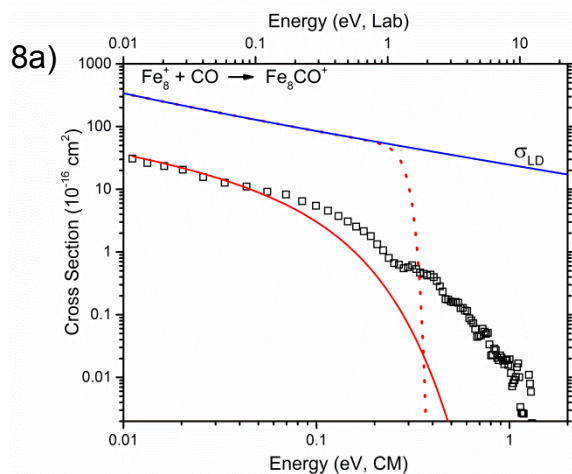
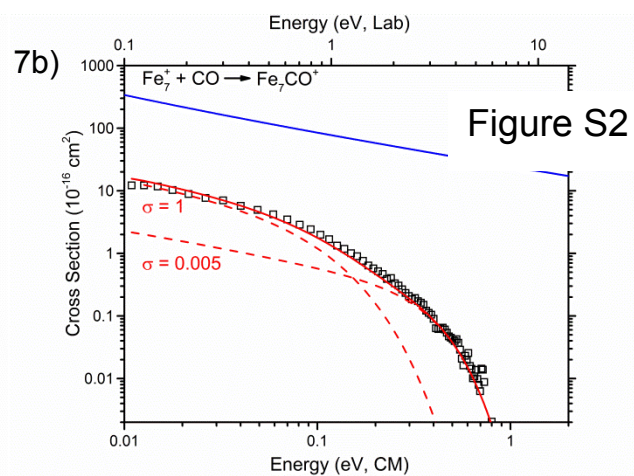
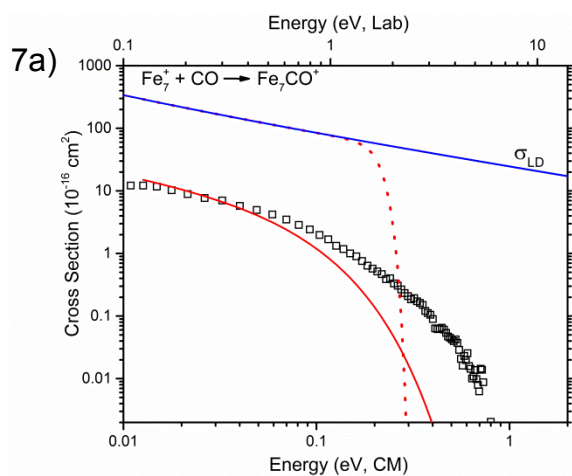
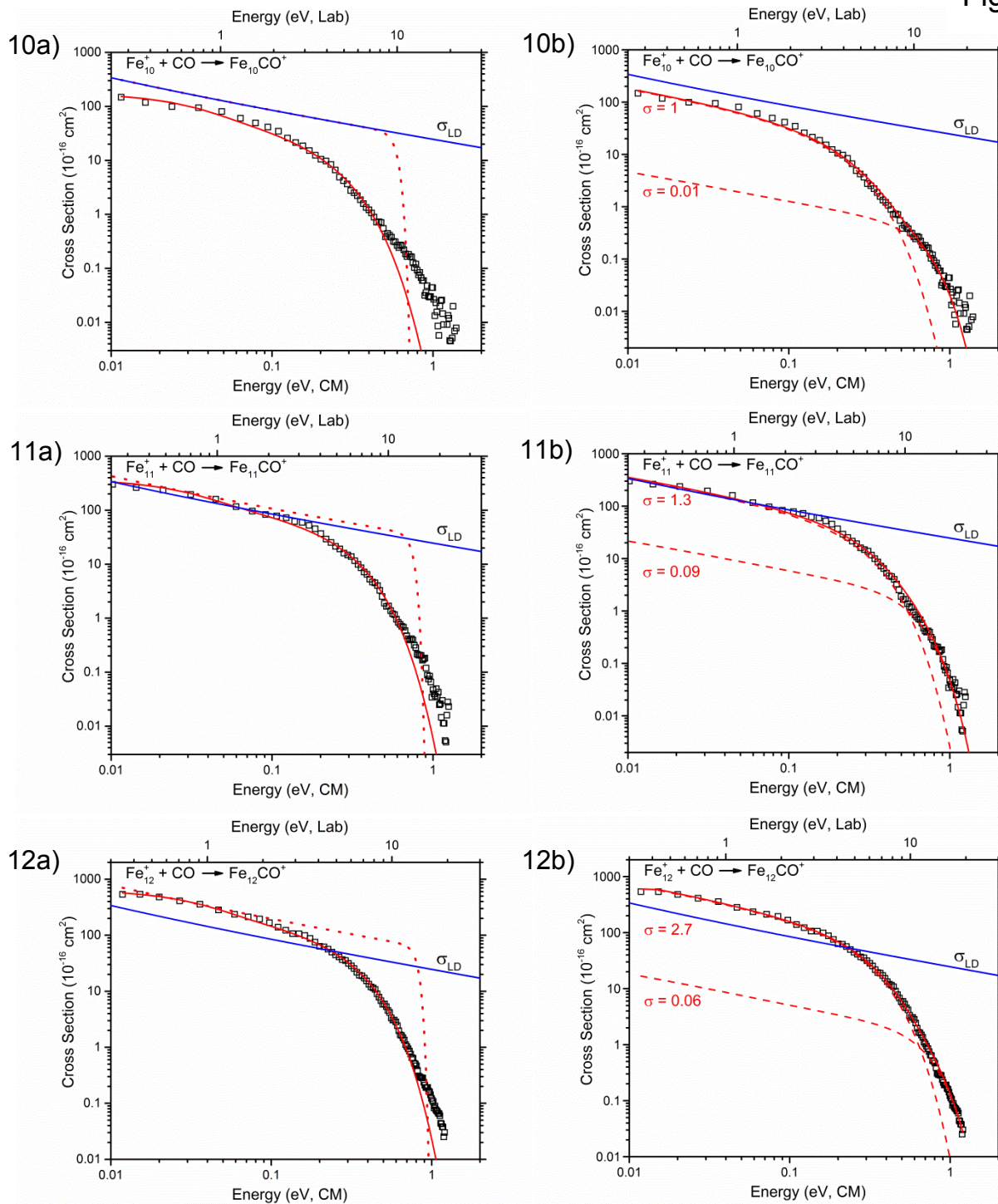




Figure S2





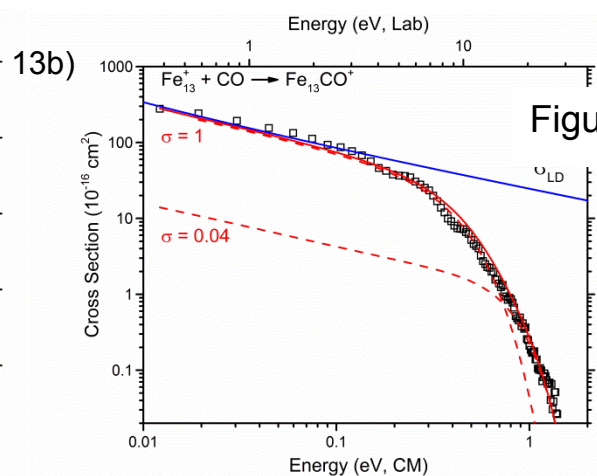
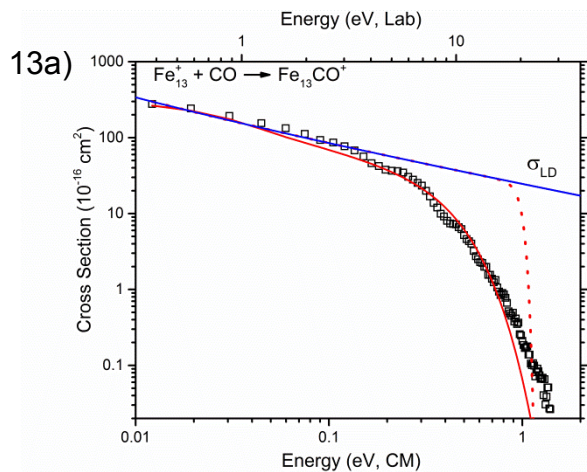
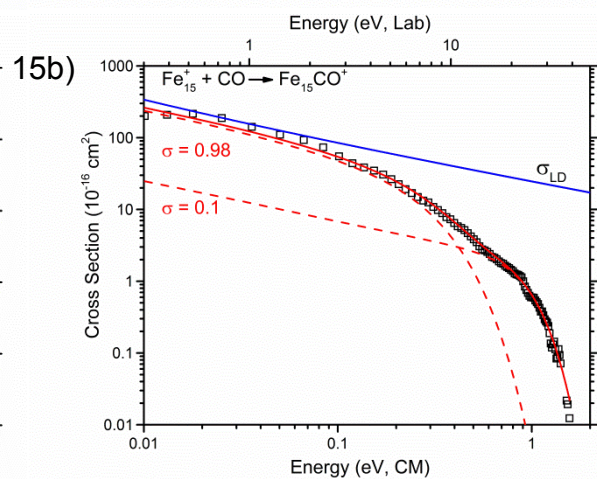
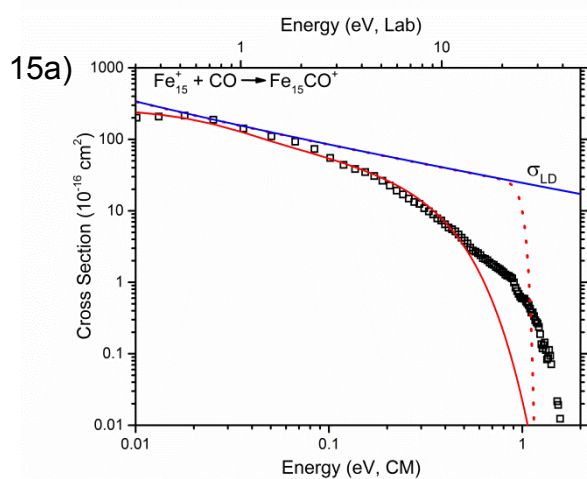
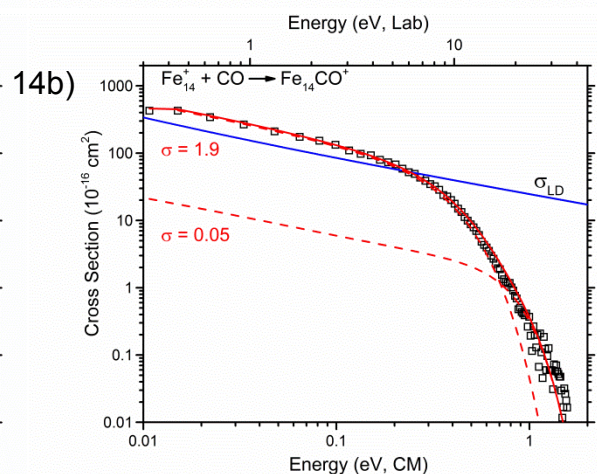
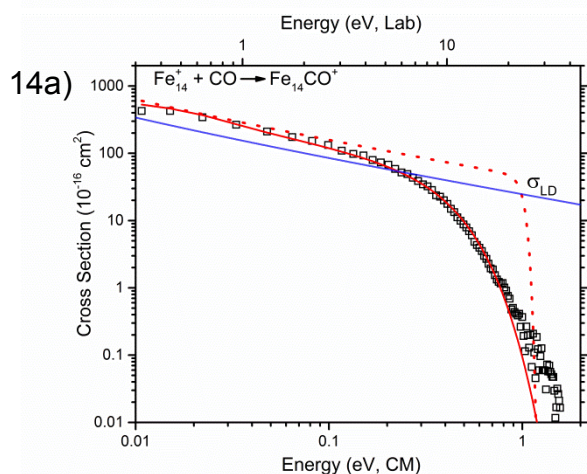
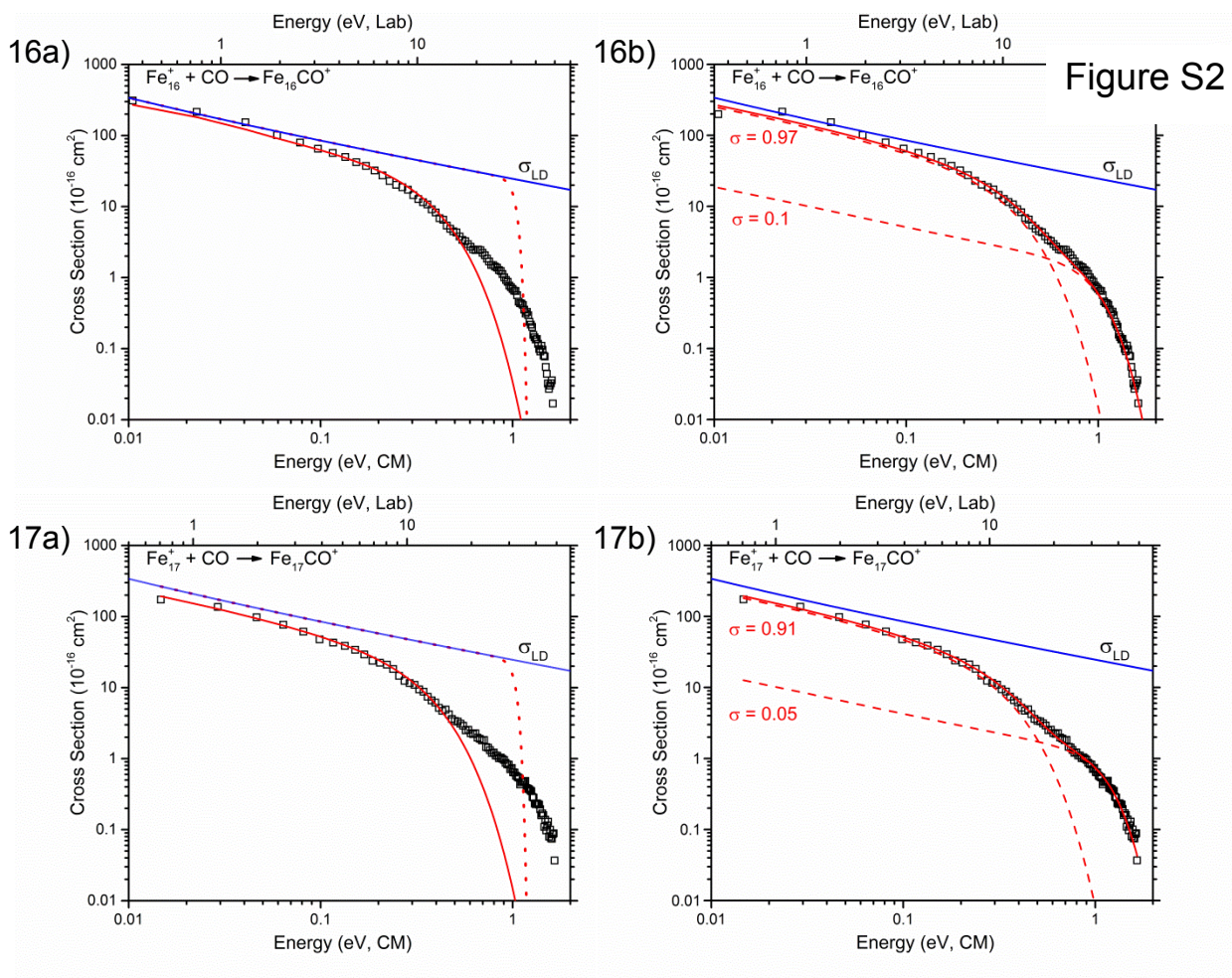


Figure S2





**Fig. S2.** Zero-pressure extrapolated experimental cross sections (symbols) for the association reactions of  $\text{Fe}_n^+$  where  $n = 4 - 17$  (parts *na* - *nb*) with CO as a function of kinetic energy in the center-of-mass frame. The solid red lines in parts *na* are the model of eqn (1) using the single model parameters in Table 1. The dotted red lines show the model in the absence of experimental internal and kinetic energy distributions. Dashed lines in parts *nb* represent models of eqn (1) for the primary and secondary features and the red line shows their sum using the dual model parameters in Table 1. The locked dipole cross section of eqn (3) is also indicated by the blue lines.