

Fig. S1 Mass spectra showing the parent clusters and the products in the reactions between Au_n^- ($n = 1-20$) and NO. The experiments were carried out using the reactor configuration for small size clusters running at 150 K. The spectra in black, red, and blue showed the results with NO flows of 0.000 sccm, 0.025 sccm, and 0.100 sccm, respectively. The single numbers on the top black spectrum showed the numbers of gold atoms in the indicated Au_n^- . The single numbers on the bottom blue spectrum showed the number of gold atoms in the observed disproportionational products $Au_nNO_2^-$; the number pairs (n, x) on the bottom blue spectrum indicated typical products of cluster complexes $Au_n(NO)_x^-$.

