Fig. S4 the data of  $-\ln(I/I_0)$  vs NO flows for the active clusters in the reactions between Au<sub>n</sub><sup>-</sup> (n = 10 - 80) and NO at 150K (shown in Fig S2). The linear fitting of each set of data was carried out according to the equation  $-\ln(I/I_0)=k[NO]t$ . The slopes from these fitting processes corresponded to the kt. Since the reaction time *t* is identical for all Au<sub>n</sub><sup>-</sup> in one measurement, the slopes were in proportional to the relative kinetic rates k in the initial reaction steps of Au<sub>n</sub><sup>-</sup>.



