I. INTRODUCTION

The interacting compounds in various bimolecular chemical reactions may be classified into two categories, i.e., those that are relatively richer and, accordingly, those that are relatively poorer in the electron density than the corresponding counterparts [1–3]. Well-established examples are easily found from the interactions between acids and bases, electrophiles and nucleophiles, and oxidants and reductants. Although these three sets of terms may at first glance appear to be not so intimately interrelated, they in fact describe a common situation in which the former represents relatively electron-poorer and the latter relatively electron-richer ones, respectively. In the sense that electron-poorer compounds take electrons while the electron-richer compounds give off them at the time of interaction from and to their counterparts, respectively, they can be more generally termed electron acceptors (A) and electron donors (D), respectively. In this regard, a great number of physical and chemical interactions between molecules can now be grouped as an interaction between A and D or D and A.

One of the two most common chemical interactions between D and A is the adduct formation between two interacting counterparts. This type of reaction is best represented by formation of water from hydroxide and proton [Eq. (1)]:

$$\text{OH}^- + \text{H}^+ \rightarrow \text{H}_2\text{O}$$  \hspace{1cm} (1)