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GAS PHASE ION-MOLECULE REACTIONS OF INORGANIC, ORGANIC AND BIO IONS IN A MODIFIED ION TRAP

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We have recently modified a commercial ion trap to examine the gas phase ion-molecule reactions of ions produced by electrospray ionization (ESI).¹ The ability to carry out collision induced dissociation before or after ion-molecule reactions makes the modified ion trap a powerful instrument. Our most recent results which demonstrate the broad utility and versatility of ion-molecule reactions when coupled with the multistage trapping capabilities of the ion trap will be presented, including studies on the ion-molecule reactions of:

- A. poly-oxo metal cluster anions with neutral electrophilic reagents;
- B. coordinatively unsaturated metal complex cations with neutral Lewis bases;
- C. aromatic diazonium ions and aryl cations with neutral nucleophiles;
- D. peptide and oligonucleotide ions with a range of neutral reagents such as D₂O;
- E. non-covalent complexes of biomolecules.

1. Reid, G.E.; O'Hair, R. A. J.; Styles, M.L.; McFadyen, W.D.; Simpson, R.J., *Rapid Commun. Mass Spectrom.*, 1998, 12, in press.