**Exercise #2:** **Reactivity & Charge Separation Exercises ; What Lewis teaches**

#  Organic Chem I Alfred State College

2.0 What’s likely to be more reactive in these pairs

a) \*NO2 radical or NO2+ b) CH4 or CH3-CH2 –CH3 c) NH3 or CH4

d) HC≡C: (-) or HC≡CH

2.1. Which have dipoles, which don’t ?

 CF3H CF4 F2C=CH2 CO2 CBr2H2

dipole yes yes yes yes yes

dipole no no no no no

2.2. For the molecular shapes below, predict the most likely direction of chemical attack

2.3. Order the compounds below from least to most reactive

based simply on charge separation trends

CH4 CH3 Cl CH2Cl2 CCl4

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *reactivity=* | *LEAST* | *MODEST* | *HIGH* | *MOST* |
| MOLECULE |  |  |  |  |
| COMMENT |  homeuse | cleaning solvent | EPA hit list | Ozone killer |