

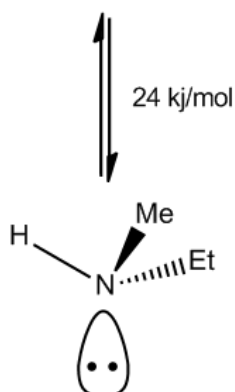
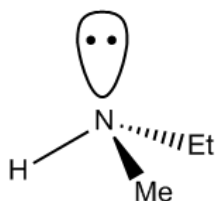
## CONCEPT: NON-CARBON CHIRAL CENTERS

Chirality may exist on atoms other than carbon. Common non-carbon chiral atoms are (\_\_\_\_), (\_\_\_\_), (\_\_\_\_), (\_\_\_\_).

□ The lone pair on a neutral nitrogen is able to \_\_\_\_\_ relatively easily, losing its chirality.

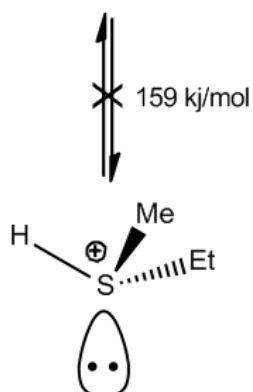
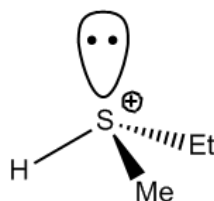
### Amine Inversion

□ Chiral



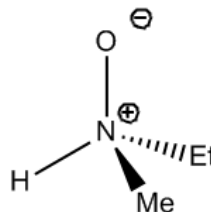
### Sulfonium Salt Inversion

□ Chiral



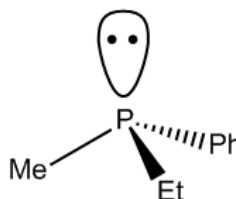
### Quaternary Amines

□ Chiral



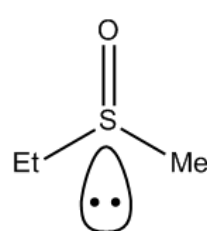
### Phosphines

□ Chiral



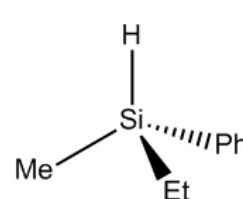
### Sulfoxides

□ Chiral



### Silicon Compounds

□ Chiral



● Chirality is determined using the R/S naming system, where the \_\_\_\_\_ is always group number \_\_\_\_\_.

