

Supplementary Table. 1: Potential difference thresholds for proton transfer. Potential differences are in units of  $kT/e$  where  $k$  is Boltzmann's constant,  $T$  is the temperature in K and  $e$  is the charge of an electron.

Amino acid types in proton transfer	Potential difference
Acid->Base	50
Base->Acid	250
Acid->Acid	150
Base->Base	130
Other->Base	100
Other->Amide	400
Amide->Other	250