

## Answer on Question #41126, Chemistry, Other

### Question

Among the following weakest conjugate base is

$\text{NO}_3^-$

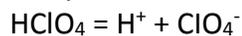
$\text{Cl}^-$

$\text{ClO}_4^-$

$\text{CH}_3\text{COO}^-$

### Answer

$\text{HClO}_4$  is the strongest inorganic acid among mentioned ones. It means that  $K_a$  (acidity constant) is the largest for  $\text{HClO}_4$  and equilibrium in the equation:



is strongly shifted to products of dissociation.

Therefore the affinity of  $\text{ClO}_4^-$  to  $\text{H}^+$  ion (in other words basicity) is the weakest among mentioned conjugate bases and  $\text{ClO}_4^-$  is the weakest conjugate base.