The dipole moment of water is higher than that of methanol; water is more polar than methanol. One practical consequence is a covalent solute dissociates into ions to a greater extent in water than in methanol.

\[
\text{solvent} \quad \varepsilon
\]

<table>
<thead>
<tr>
<th>solvent</th>
<th>\varepsilon</th>
</tr>
</thead>
<tbody>
<tr>
<td>water</td>
<td>80</td>
</tr>
<tr>
<td>methanol</td>
<td>30</td>
</tr>
</tbody>
</table>

\[
\begin{array}{c}
\text{M} \xrightarrow{\text{solvent}} \quad X^{-} \quad \text{M}^{+}
\end{array}
\]

equilibrium constant for dissociation of MX : \( K_{\text{dis}} \)

\[
\begin{array}{c|c}
\text{solvent} & K_{\text{cis}} \\
\hline
\text{water} & a \\
\text{methanol} & b \\
\hline
\end{array}
\]

a > b

Contributors

- Gamini Gunawardena from the OChemPal site (Utah Valley University)