Propriedades Coligativas

Qual é a sua origem?

\[
\mu_j = \mu^* + R \ T \ \ln(a_j)
\]

\[
\mu_A = \mu^*_A + R \ T \ \ln(a_A)
\]

\[
\mu_A = \mu^*_A + R \ T \ \ln(x_A)
\]
$P_A^* > P_A$
5.6(b) The addition of 5.00 g of a compound to 250 g of naphthalene lowered the freezing point of the solvent by 0.780 K. Calculate the molar mass of the compound.

<table>
<thead>
<tr>
<th>Compound</th>
<th>$K_f/(K \text{ kg mol}^{-1})$</th>
<th>$K_b/(K \text{ kg mol}^{-1})$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>3.90</td>
<td>3.07</td>
</tr>
<tr>
<td>Benzene</td>
<td>5.12</td>
<td>2.53</td>
</tr>
<tr>
<td>Camphor</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>3.8</td>
<td>2.37</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>30</td>
<td>4.95</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>6.94</td>
<td>5.8</td>
</tr>
<tr>
<td>Phenol</td>
<td>7.27</td>
<td>3.04</td>
</tr>
<tr>
<td>Water</td>
<td>1.86</td>
<td>0.51</td>
</tr>
</tbody>
</table>
Efeito da Temperatura sobre a Solubilidade

\[ \ln(x_B) = \frac{\Delta_{fusão} B}{R} \left( \frac{1}{T^*} - \frac{1}{T} \right) \]
\[ \mu_A = \mu_A^* + R \, T \, \ln(x_A) \]

\[ \mu_A = \mu_A^* + R \, T \, \ln(x_A^0) \]