Octanol-rich and water-rich domains in dynamic equilibrium in the pre-ouzo region of ternary systems containing a hydrotrope

Olivier Diat*, Michael L. Klossek^b, Didier Touraud^b, Bruno Demé^c, Isabelle Grillo^c, Werner Kunz^b and Thomas Zemb^a

^aInstitut de Chimie Séparative de Marcoule, UMR5257 CEA/CNRS/UM2/ENSCM, Bat 426, Marcoule, Bagnols sur Cèze, 30207, France, ^bInstitute of Physical and Theoretical Chemistry, Universitity of Regensburg, Regensburg, 93040, Germany, and ^cInstitut Laue-Langevin, 6 rue Jules Horowitz, Grenoble Cedex 9, 38042, France

Correspondence email: olivier.diat@cea.fr

Supplementary material

**Figure 1** phase diagram of the ternary water-ethanol-octanol system showing the immiscibity gap and the different studied line within the pre-ouzo region. Only one sample was studied combining neutron and x-ray experiment at T=35°C. The other one were studied using DLS and SAXS but as shown in the article SANS tool is useful for determining the various fraction of solvent in the water- and oil-rich domains.
**Figure 2**: left) SWAXS spectra on lin-log scale and in absolute units for the binary water (H) / ethanol (E) system varying the fraction of ethanol in water from black to red curve. For pure ethanol till 50/50 (E/H) we can observe two peaks as expected, the inner one characteristic of the OH correlation distance and the outer one characteristic of the carbon groups. right) SWAXS spectra on lin-log scale and in absolute units for the binary ethanol (E)/ octanol (O) system varying the fraction of octanol in ethanol from black to red curve. The 40/60 curves for each binary system are combined to analyse the WAXS part of the ternary system studied in the article.

**Figure 3**: SAXS curves for samples at same composition but with three different contrasts used for SANS experiments
Neutron Scattering length densities (SLD) for the various compounds

<table>
<thead>
<tr>
<th></th>
<th>H2O</th>
<th>D2O</th>
<th>octanol-D</th>
<th>octanol-H</th>
<th>ethanol-D</th>
<th>ethanol-H</th>
</tr>
</thead>
<tbody>
<tr>
<td>neutron SLD (cm/cm³)</td>
<td>-5.60E+09</td>
<td>6.40E+10</td>
<td>5.75E+10</td>
<td>-3.17E+09</td>
<td>6.10E+10</td>
<td>-3.45E+09</td>
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