Water (oxygen) bulk density

x 3 x 8

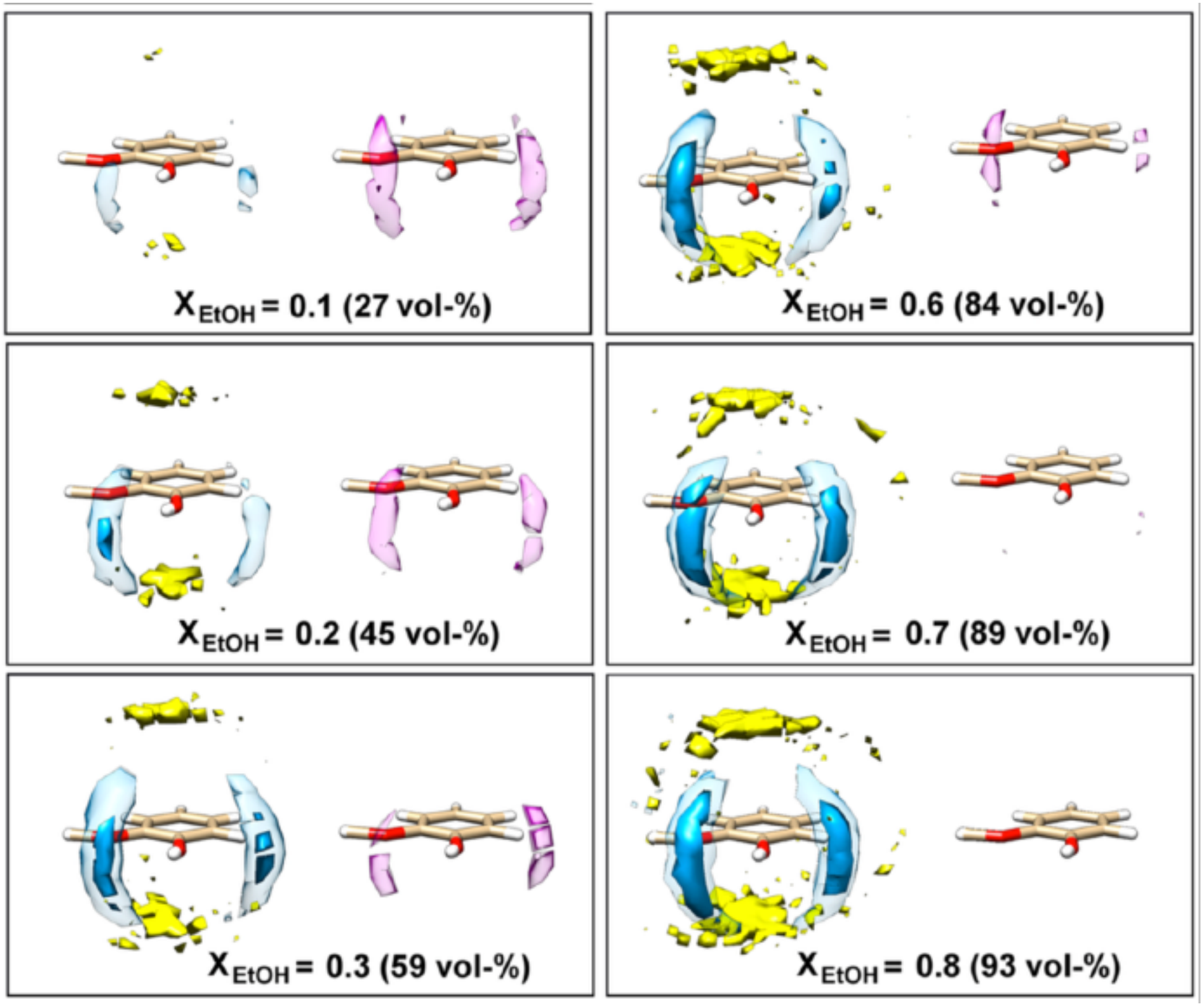
Ethanol (oxygen) bulk density

x 3 x 8

Ethanol (methyl carbon) bulk density

x 3

Big changes
X=0.1→0.3



Atomic spatial distribution functions (SDFs) of water oxygen and EtOH oxygen and methyl carbon components around a single guaiacol molecule in liquid-air interface mixtures of varying EtOH content.

- Guaiacol co-localizes preferentially at the liquid-air interface at ABV < 45%.

- Is this why standard bottled (40%) tastes so different from cask strength (~55%)? At surface may make it more volatile.

- Further dilution may change more: from 45% ABV to 27% ABV, guaiacol loses ~53% of its EtOH contacts; may be more volatile.