

E1: Electronic supplementary material for “Shear Rheology of Amphiphilic Cubic Liquid Crystals from Large-Scale Kinetic Lattice-Boltzmann Simulations”

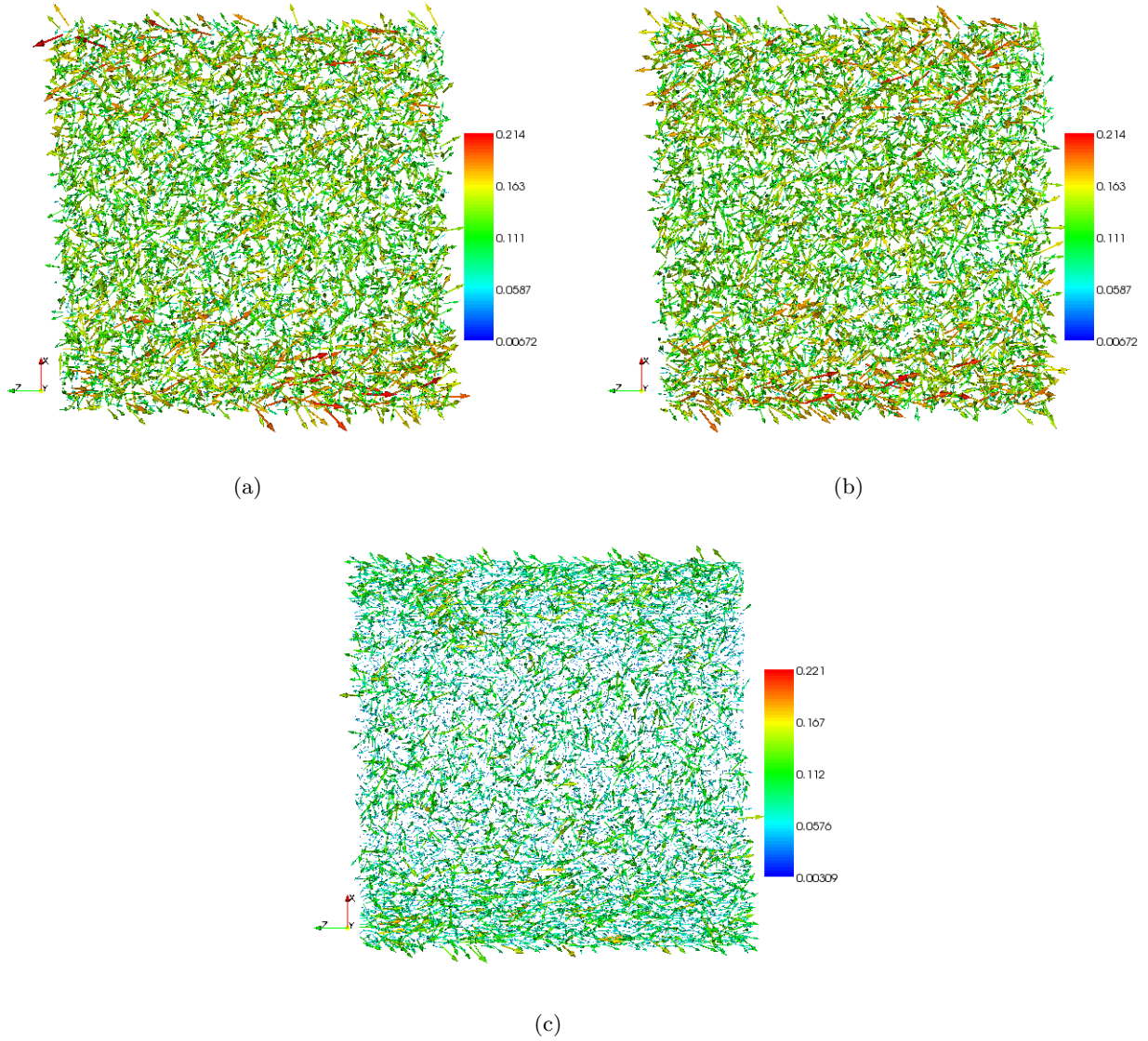


Figure 1: Visualization of the velocity vector field in the xz shear plane of (a) oil (b) water and (c) amphiphilic species in a 128^3 lattice-sites gyroid system at a shear velocity of $U = 0.06$. As can be observed here, the flow profiles for the three species are non-laminar giving rise to non-zero time-averaged gradients in the various components of the pressure tensor. The arrows representing the velocity vector are coloured by the vector magnitude as per the colour gradient map shown in the inset. The corresponding steady-state Couette flow velocity profile (v_z) and the σ_{xz} stress profile along the velocity gradient direction for this system are given in Figure 4 of the manuscript.