

Supporting Information Available

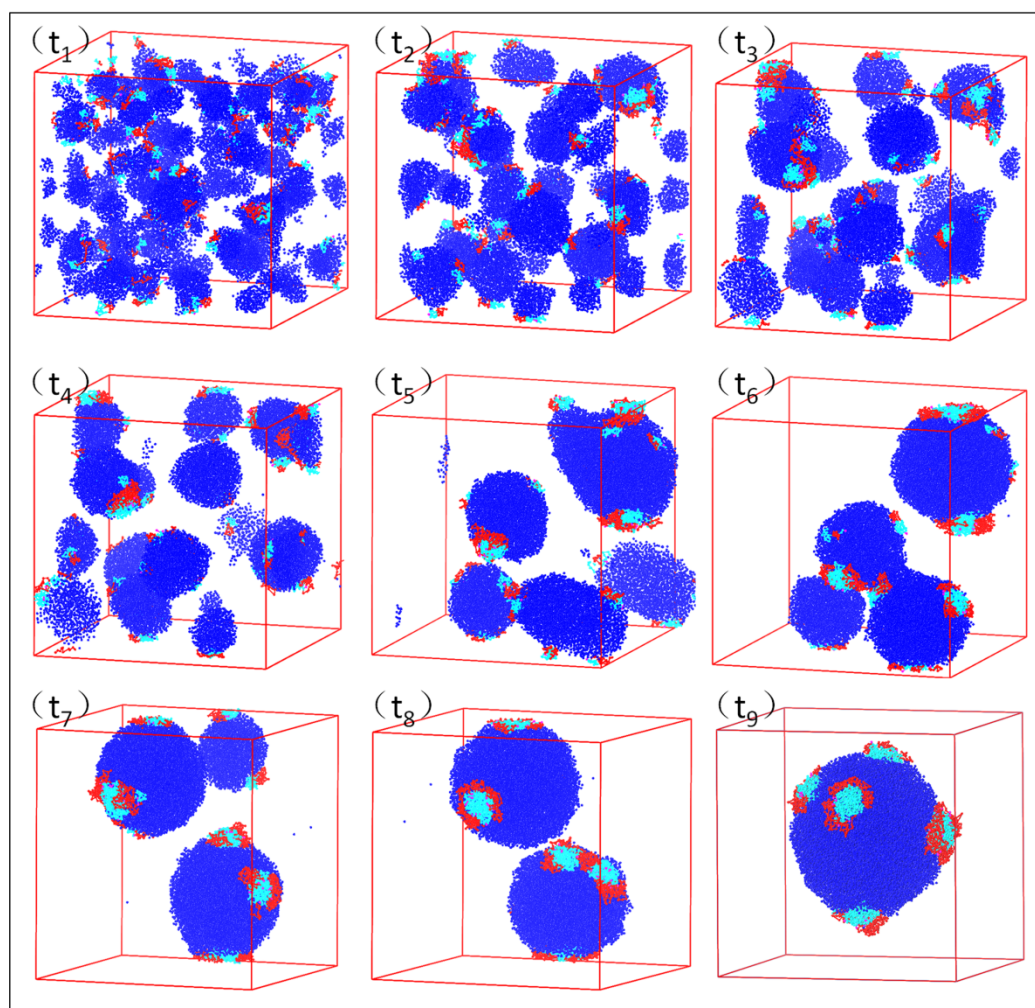


Figure S1. The snapshots of demulsification in presence of DTF demulsifiers during simulation steps: t_1 , 0.1×10^4 time steps; t_2 , 0.3×10^4 time steps; t_3 , 0.5×10^4 time steps; t_4 , 0.8×10^4 time steps; t_5 , 1.6×10^4 time steps; t_6 , 2.4×10^4 time steps; t_7 , 3.2×10^4 time steps; t_8 , 4×10^4 time steps, t_9 , 4.5×10^4 time steps.

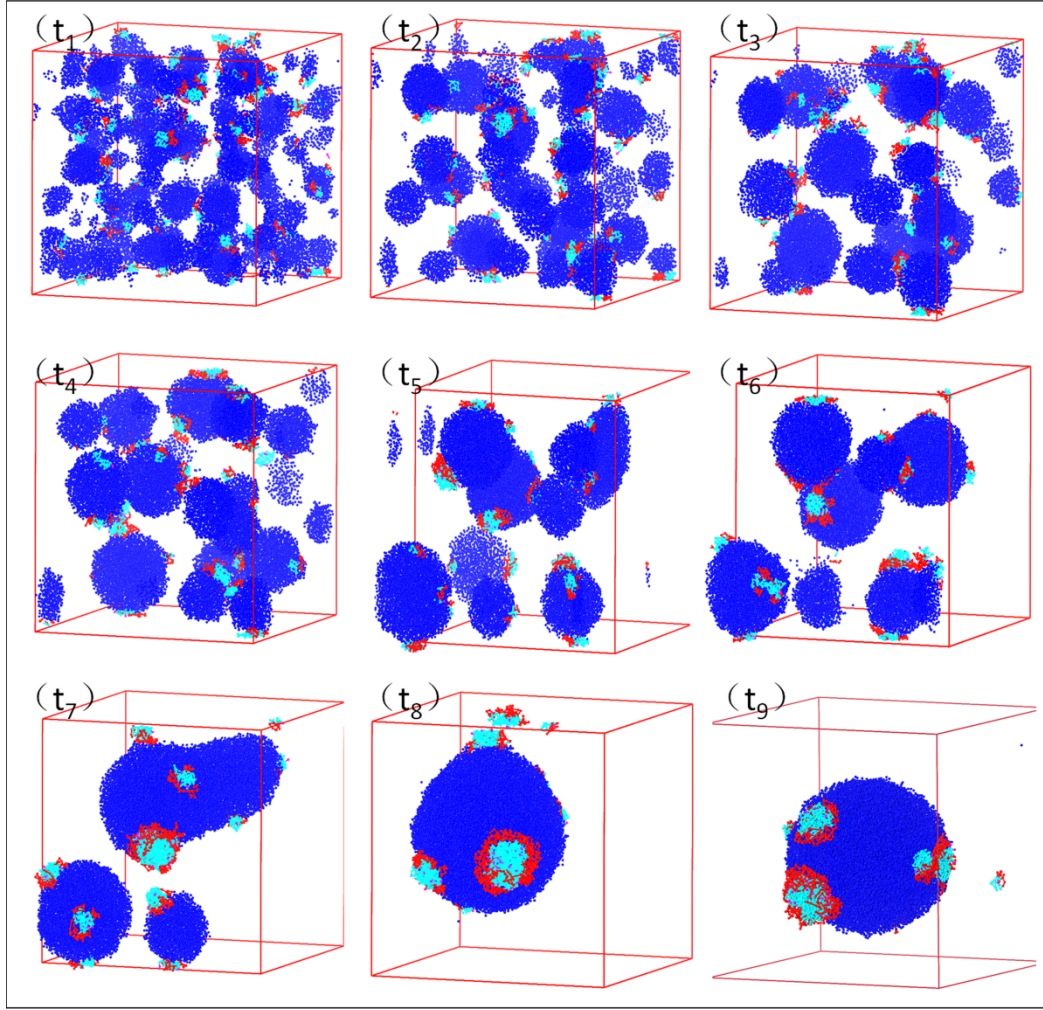


Figure S2. The snapshots of demulsification in presence of DBO demulsifiers during simulation steps: t_1 , 0.1×10^4 time steps; t_2 , 0.3×10^4 time steps; t_3 , 0.5×10^4 time steps; t_4 , 0.8×10^4 time steps; t_5 , 1.6×10^4 time steps; t_6 , 2.4×10^4 time steps; t_7 , 3.2×10^4 time steps; t_8 , 4×10^4 time steps, t_9 , 10×10^4 time steps.

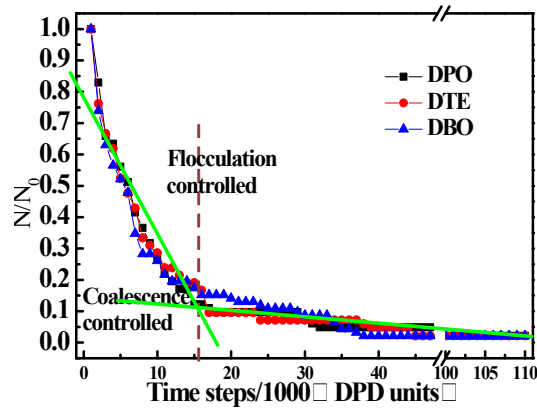


Figure S3. The demulsification transform process from coalescence controlled to flocculation controlled. As seen in figure S3, the crossover point of tangents is 16000 steps.