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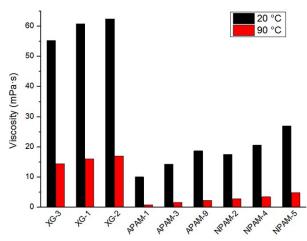


Fig. S1 Viscosity of different polymers, and concentration is 0.1 wt%.

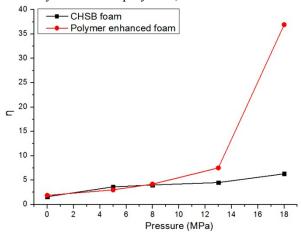


Fig. S2 The half-life ratio  $(\eta)$  of  $CO_2$  foam to  $N_2$  foam as a function of pressure.

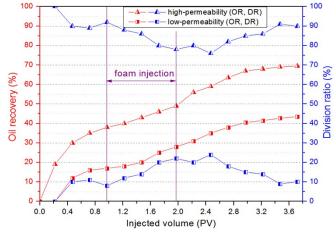


Fig. S3 Changes of oil recovery (OR) and division ratio (DR) in the high- and low-permeability of heterogeneous cores, and the permeability ratio is 3 and CHSB foam is injected.