Supporting information
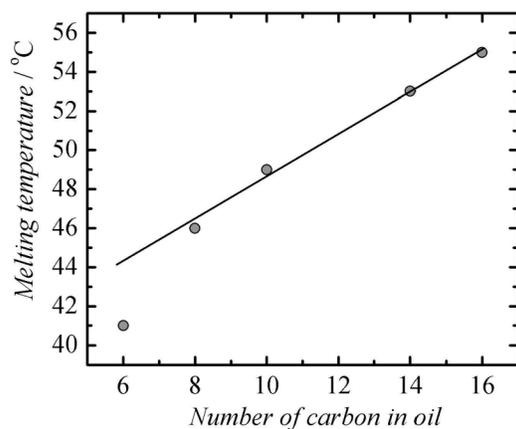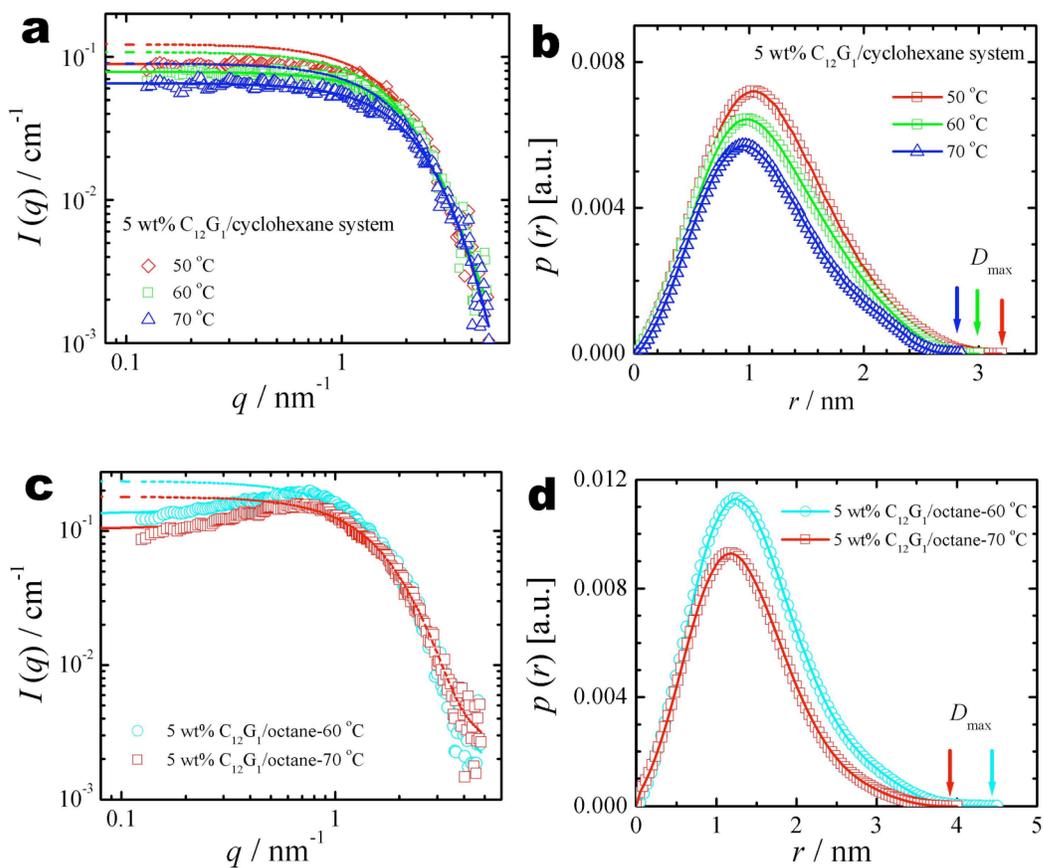

Fig. S1: Melting temperature (T_m) of 5 wt% $C_{12}G_1$ in different hydrocarbon oils.
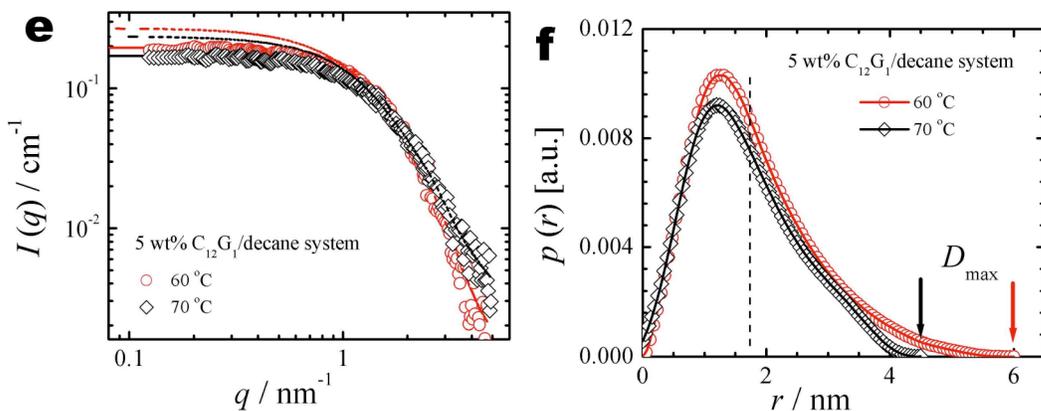

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Fig. S2: Effects of temperature on the reverse micellar structures of $C_{12}G_1$ in cyclic and straight chain hydrocarbon oils as obtained by SAXS; (a) The normalized X-ray scattering intensities, $I(q)$, of the 5 wt% $C_{12}G_1$/cyclohexane system in absolute unit at different temperatures of 50, 60, and 70 °C and (b) the corresponding real-space functions, $p(r)$, obtained by GIFT procedure. (c) and (d), and (e) and (f), respectively present those for the 5 wt% $C_{12}G_1$/octane and the 5 wt% $C_{12}G_1$/decane systems at 60 and 70 °C. The solid and broken lines in panel (a), (c), and (e) represent GIFT fit and the calculated form factor for n particles in unit volume, respectively. Arrows in panels (b), (d), and (f) highlight the maximum diameter, D_{max}, of the micellar core and the broken line in panel f indicates the cross section diameter of the core.
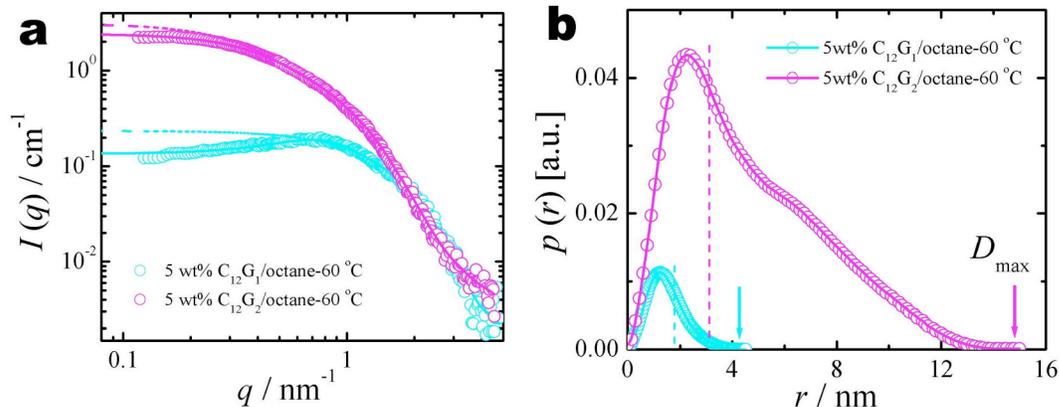

Fig. S3: Comparison of the micellar structures for different size of hydrophilic headgroup. (a) The SAXS intensities $I(q)$ of the 5 wt% $C_{12}G_1$/octane and 5 wt% $C_{12}G_2$/octane systems obtained in absolute unit at 60 °C and (b) the corresponding pair-distance distribution functions, $p(r)$.

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