## Supporting Information

**Table S1**: Effect of EG concentration on the structure factor parameters, effective volume fraction ($\phi$), effective interaction radius ($R$), and the polydispersity obtained from the GIFT evaluation of the SAXS data in 10 wt% iso-$C_{18}G_1$/decane + EG system at 25 °C.

| Systems | Effective volume fraction ($\phi$) | Interaction radius ($R$) | Polydispersity |
|---|---|---|---|
| 10 wt% iso-$C_{18}G_1$/decane + 0% EG | 0.095 | 1.80 | 0.04 |
| 10 wt% iso-$C_{18}G_1$/decane + 0.50% EG | 0.090 | 2.17 | 0.06 |
| 10 wt% iso-$C_{18}G_1$/decane + 0.75% EG | 0.081 | 2.03 | 0.05 |
| 10 wt% iso-$C_{18}G_1$/decane + 1.00% EG | 0.100 | 2.05 | 0.06 |

**Table S2**: Effect of Gly concentration on the structure factor parameters, effective volume fraction ($\phi$), effective interaction radius ($R$), and the polydispersity obtained from the GIFT evaluation of the SAXS data in 10 wt% iso-$C_{18}G_1$/decane + GC system at 25 °C.

| Systems | Effective volume fraction ($\phi$) | Interaction radius ($R$) | Polydispersity |
|---|---|---|---|
| 10 wt% iso-$C_{18}G_1$/decane + 0% GC | 0.095 | 1.80 | 0.04 |
| 10 wt% iso-$C_{18}G_1$/decane + 0.50% GC | 0.085 | 1.71 | 0.05 |
| 10 wt% iso-$C_{18}G_1$/decane + 0.75% GC | 0.083 | 1.71 | 0.07 |
| 10 wt% iso-$C_{18}G_1$/decane + 1.00% GC | 0.088 | 1.67 | 0.06 |

**Table S3**: Effect of 1,2-BD concentration on the structure factor parameters, effective volume fraction ($\phi$), effective interaction radius ($R$), and the polydispersity obtained from the GIFT evaluation of the SAXS data in 10 wt% iso-$C_{18}G_1$/decane + 1,2-BD system at 25 °C.

| Systems | Effective volume fraction ($\phi$) | Interaction radius ($R$) | Polydispersity |
|---|---|---|---|
| 10 wt% iso-$C_{18}G_1$/decane + 0% 1,2-BD | 0.095 | 1.80 | 0.04 |
| 10 wt% iso-$C_{18}G_1$/decane + 1.0% 1,2-BD | 0.085 | 1.72 | 0.07 |
| 10 wt% iso-$C_{18}G_1$/decane + 2.0% 1,2-BD | 0.086 | 1.92 | 0.07 |
| 10 wt% iso-$C_{18}G_1$/decane + 3.0% 1,2-BD | 0.087 | 2.89 | 0.06 |
| 10 wt% iso-$C_{18}G_1$/decane + 4.0% 1,2-BD | 0.110 | 4.00 | 0.07 |

**Table S4**: Effect of temperature on the structure factor parameters, effective volume fraction ($\phi$), effective interaction radius ($R$), and the polydispersity obtained from the GIFT evaluation of the SAXS data in 10 wt% iso-$C_{18}G_1$/decane + 4% 1,2-BD system at 25 °C.

| Systems | Effective volume fraction ($\phi$) | Interaction radius ($R$) | Polydispersity |
|---|---|---|---|
| 25 C | 0.110 | 4.00 | 0.07 |
| 50 C | 0.100 | 3.50 | 0.07 |
| 75 C | 0.079 | 2.43 | 0.065 |