Supporting Information

for

Trends in the Athermal Entropy of Mixing of Polymer Solutions

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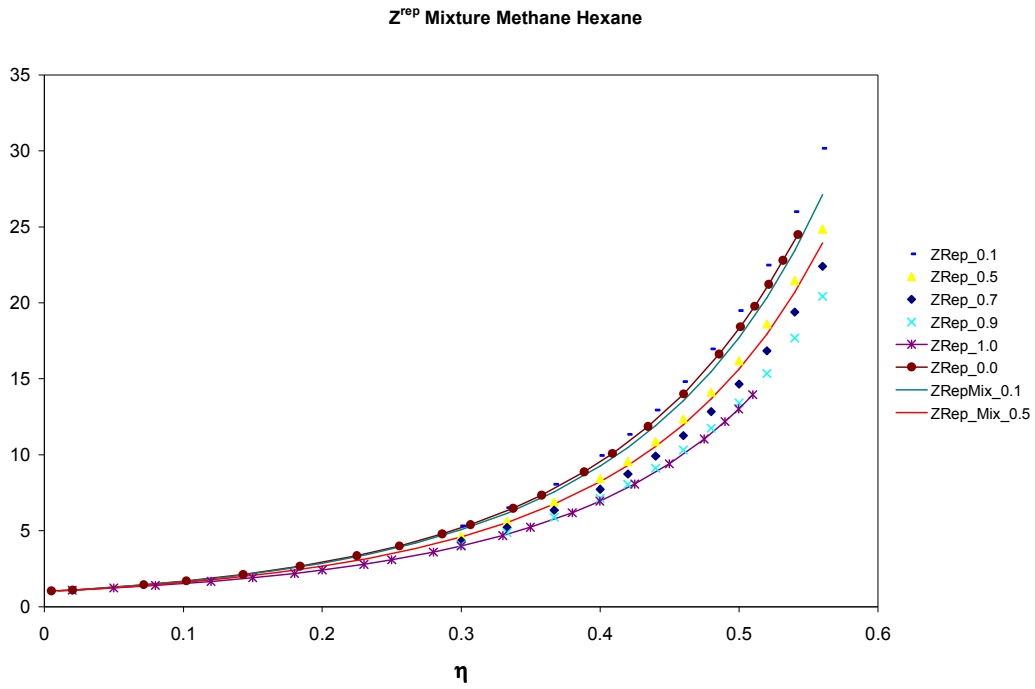

Figure S1. Mixture repulsive compressibility factor for methane + ethane system

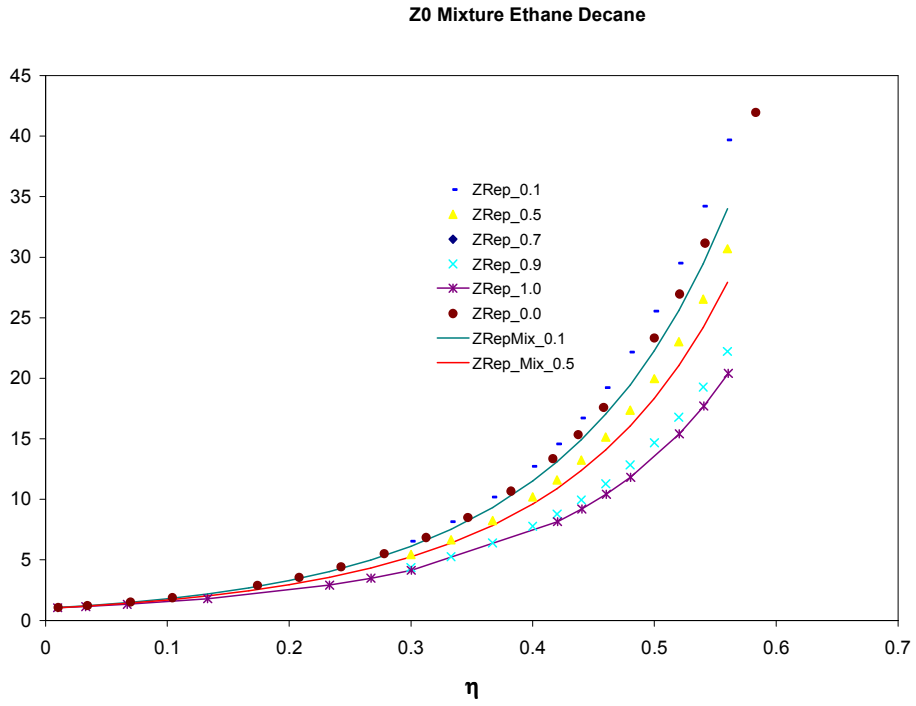

Figure S2. Mixture repulsive compressibility factor for ethane + decane system

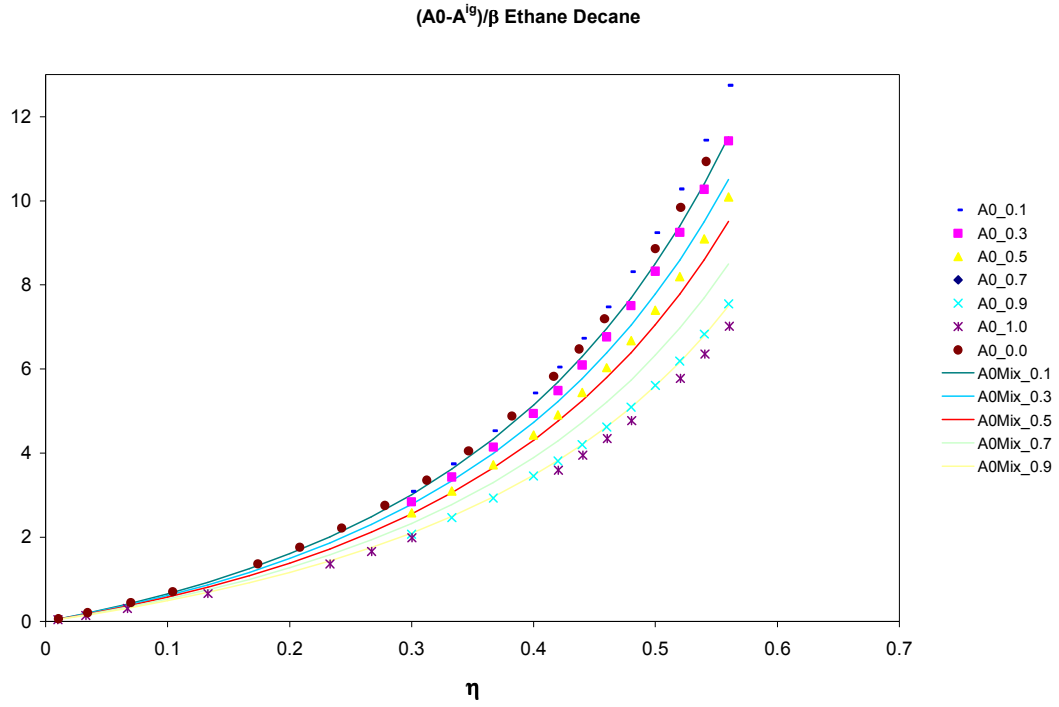

Figure S3. Repulsive Helmholtz free energy for ethane + decane mixture

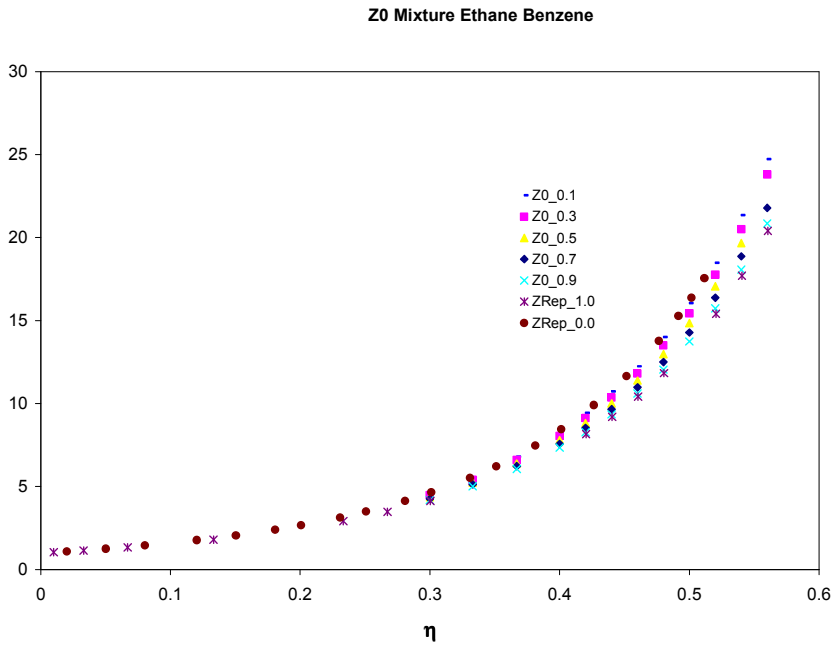

Figure S4. Mixture repulsive compressibility factor for ethane + benzene system

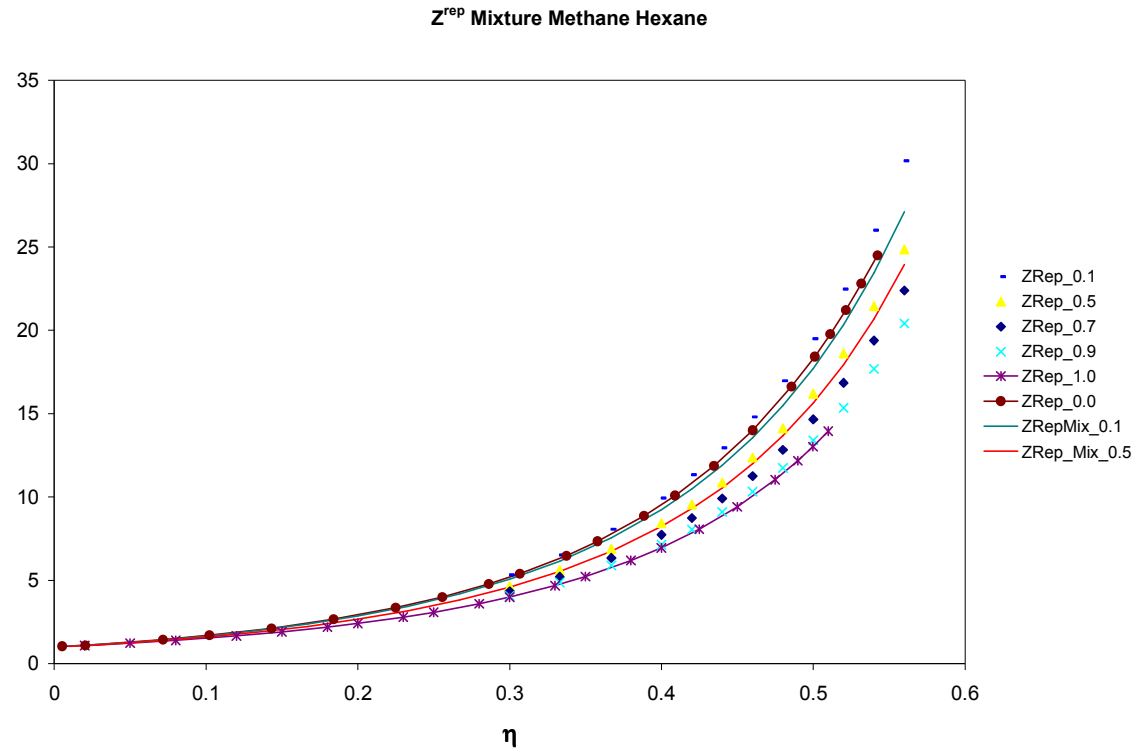

Figure S5. Mixture repulsive compressibility factor for methane +hexane system

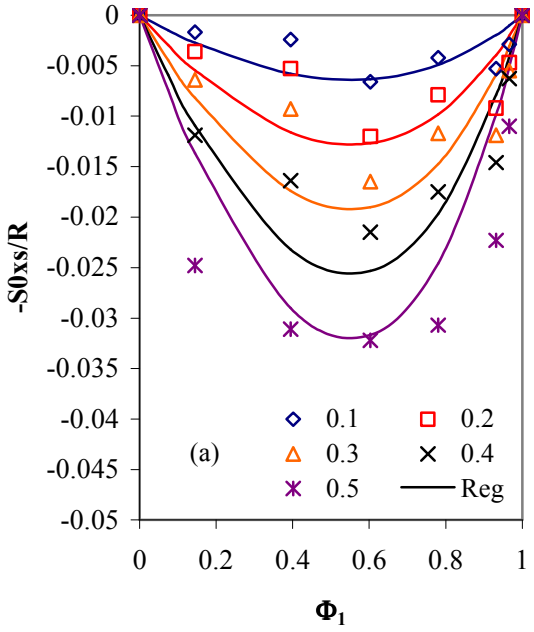

Figure S6. Excess entropy of *trans*-2-butene + ACN from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -4.77.

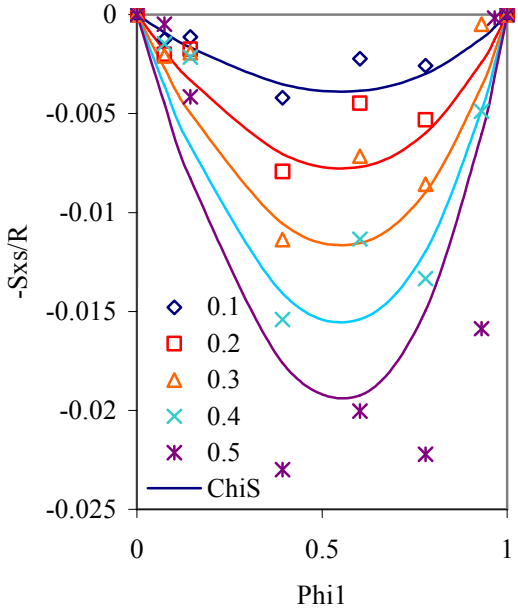

Figure S7. Excess entropy of *cis*-2-butene + ACN from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = 2.90.

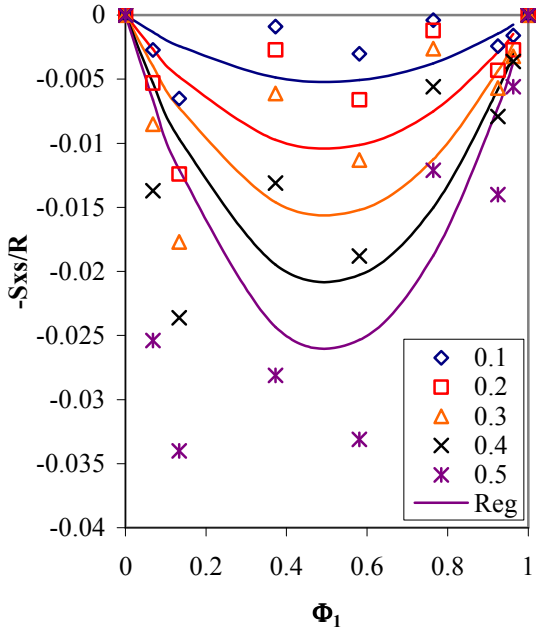

Figure S8. Excess entropy of 1,3-butadiene + ACN from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.21.

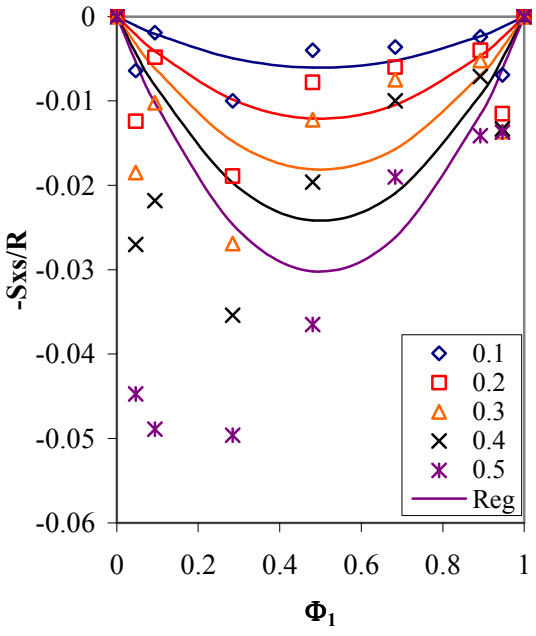

Figure S9. Excess entropy of *trans*-2-butene + DMF from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.24.

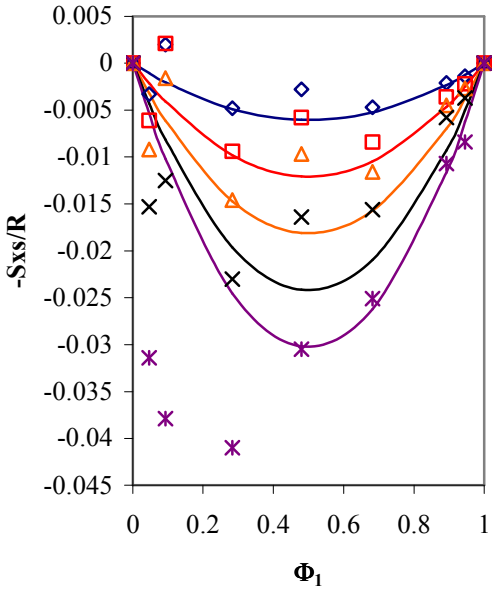

Figure S10. Excess entropy of *cis*-2-butene

+ DMF from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.24.

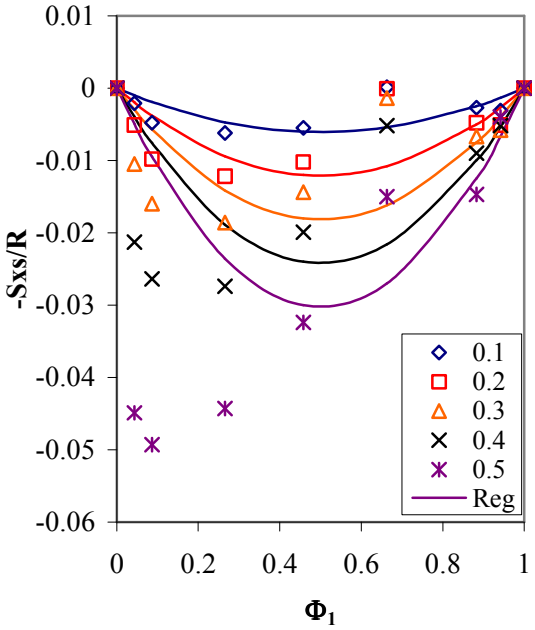

Figure S11. Excess entropy of 1,3-butadiene

+ DMF from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.24.

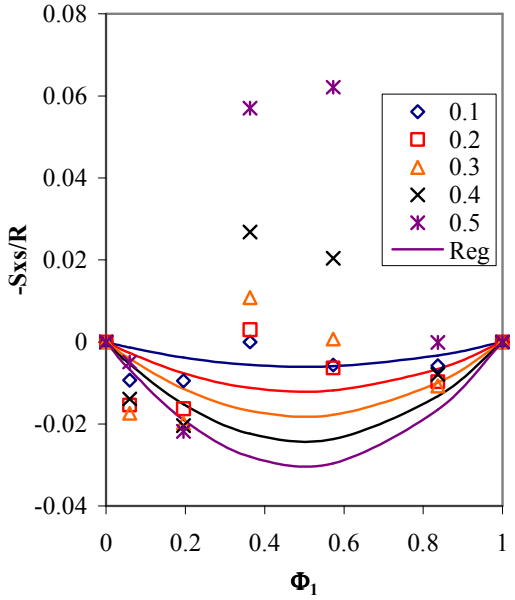

Figure S12. Excess entropy of ethanol

+ R-277 from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.24.

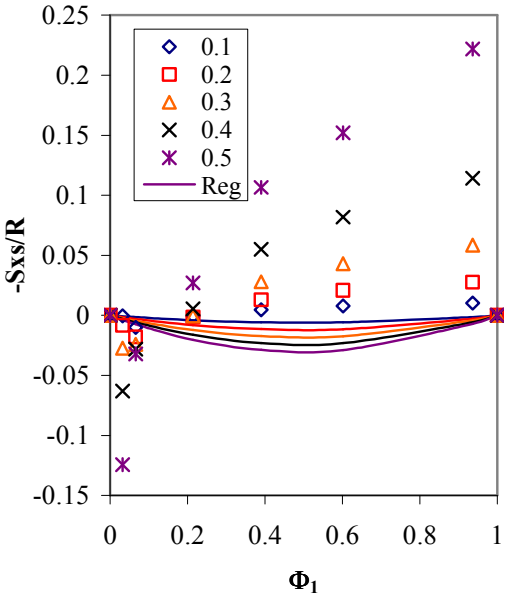

Figure S13. Excess entropy of butane

+ perfluoroC_4 from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.24.

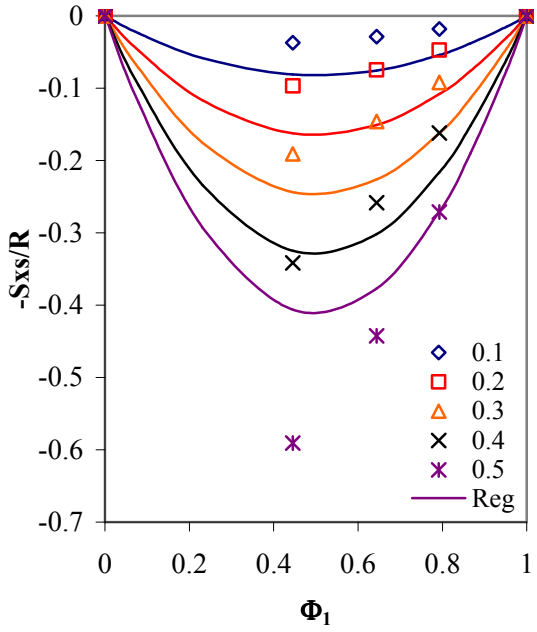

Figure S14. Excess entropy of water + butane from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -3.29.

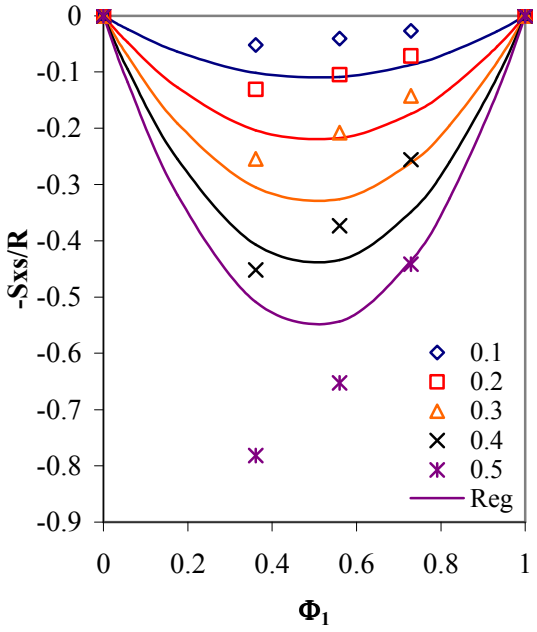

Figure S15. Excess entropy of water + hexane from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -4.41.

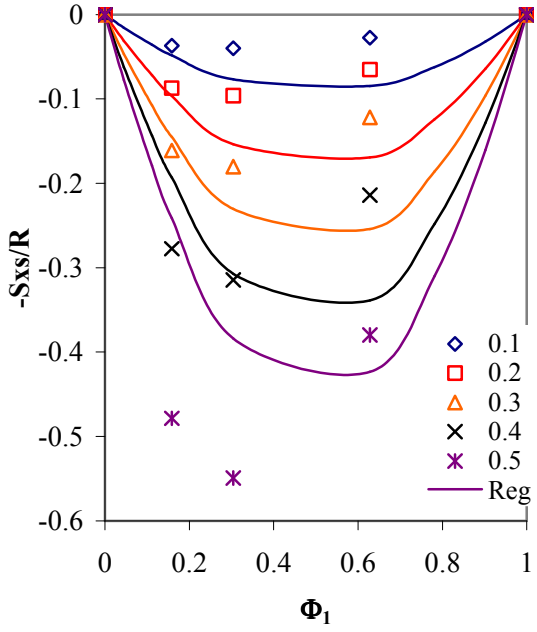

Figure S16. Excess entropy of water + butanol from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -3.62.

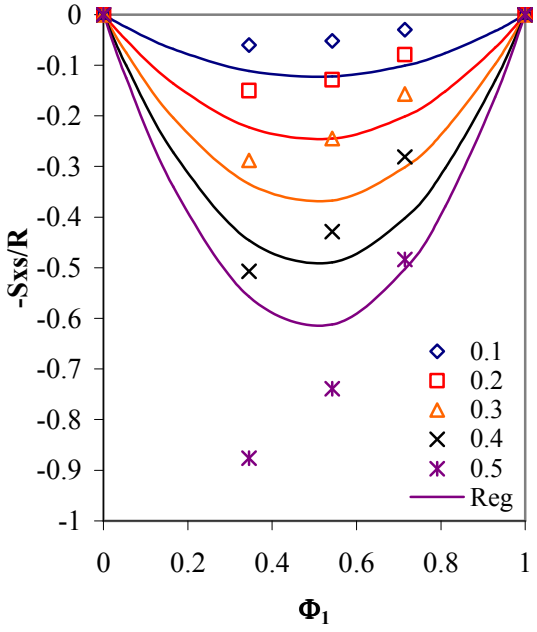

Figure S17. Excess entropy of water + 3MeC$_5$OH from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -4.93.

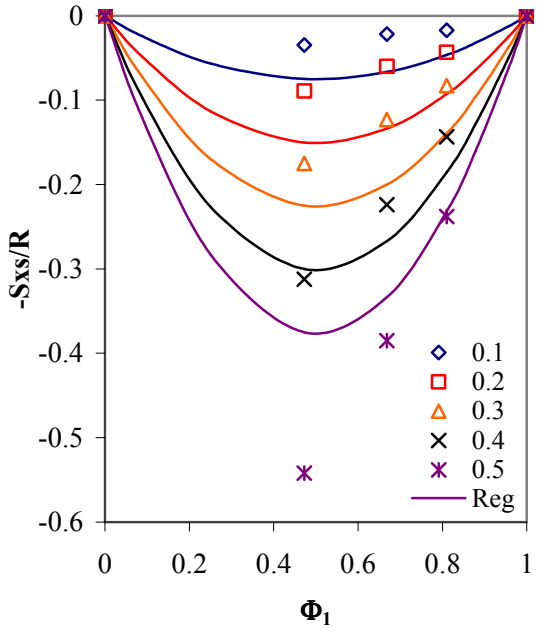

Figure S18. Excess entropy of water + C_3Amine from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -3.01.

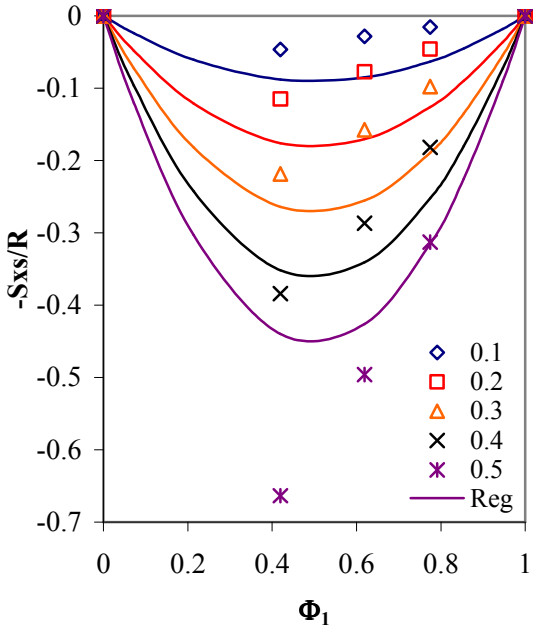

Figure S19. Excess entropy of water + C_4Amine from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -3.61.

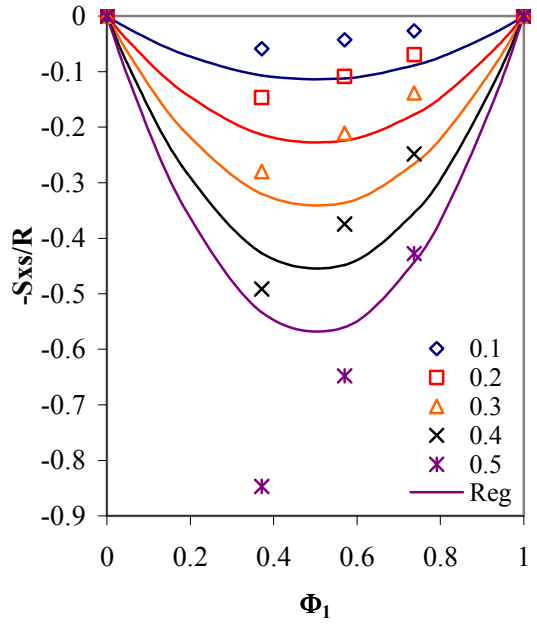

Figure S20. Excess entropy of water + 3C_5Amine from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -4.57.

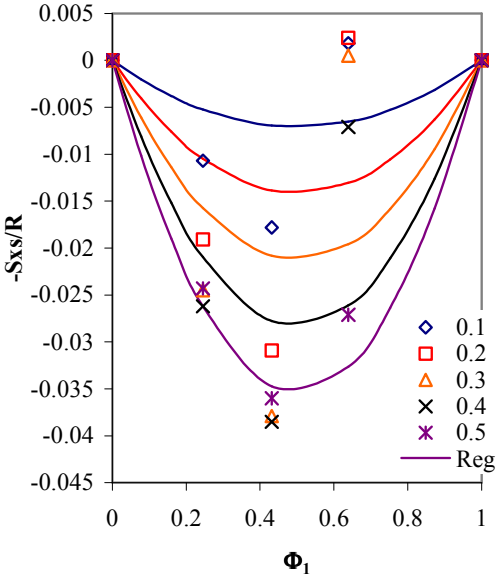

Figure S21. Excess entropy of hexane + butanol from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.28.

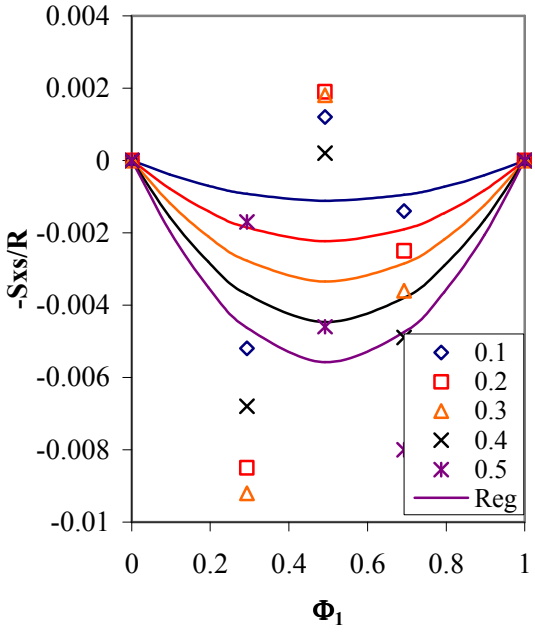

Figure S22. Excess entropy of C_4Amine + butanol from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.04.

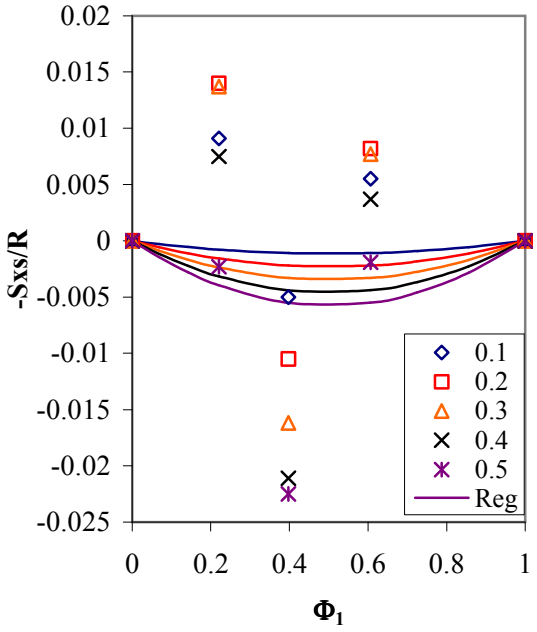

Figure S23. Excess entropy of C_5Amine + propanol from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.05.

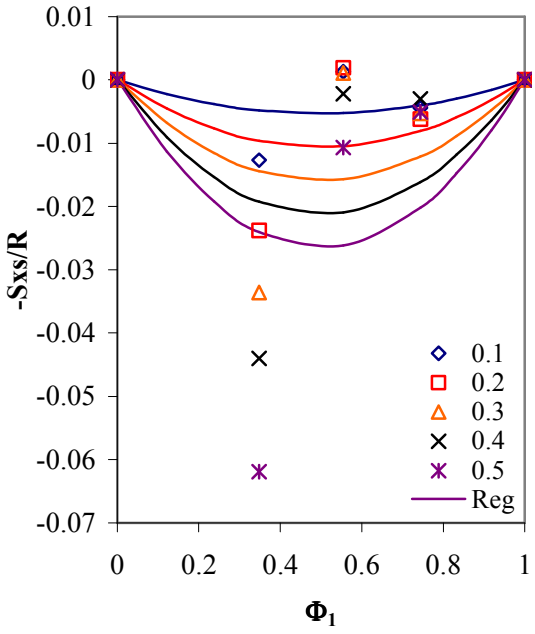

Figure S24. Excess entropy of octanol + 3MeC_5OH from molecular simulations and comparing with vdW-1, χ_{ij}^{S} = -0.21.