

## Supplemental Information

***Cavity Correlation and Bridge Functions at High Density and Near the Critical Point: A Test of Second Order Percus-Yevick Theory***

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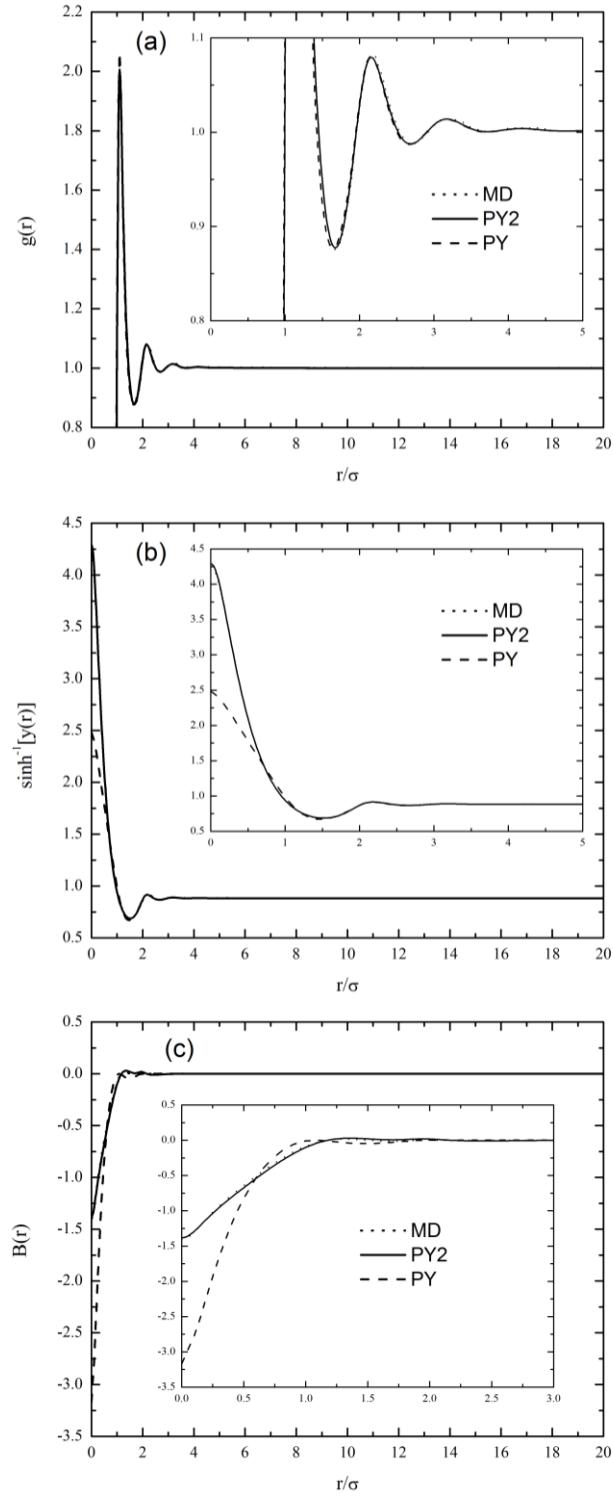


Figure S1. The radial distribution function (a), cavity correlation function (b) and bridge function (c) for  $T^* = 1.31, \rho^* = 0.460$ .

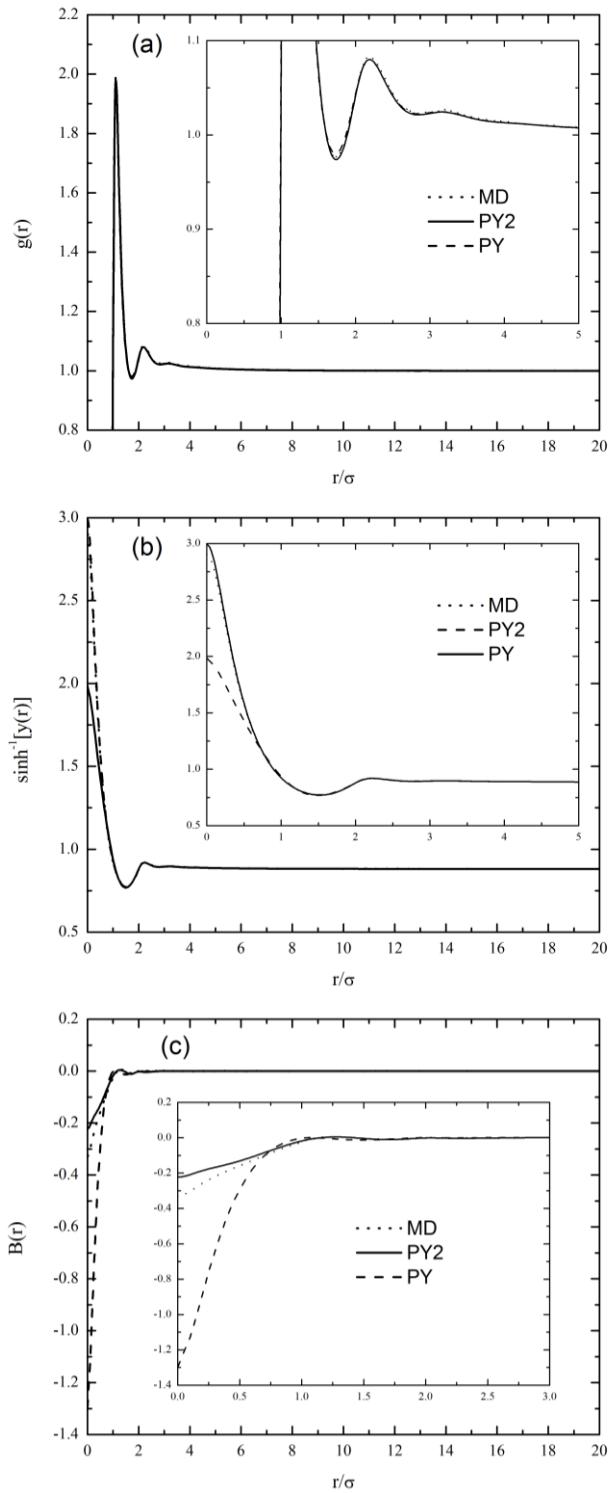
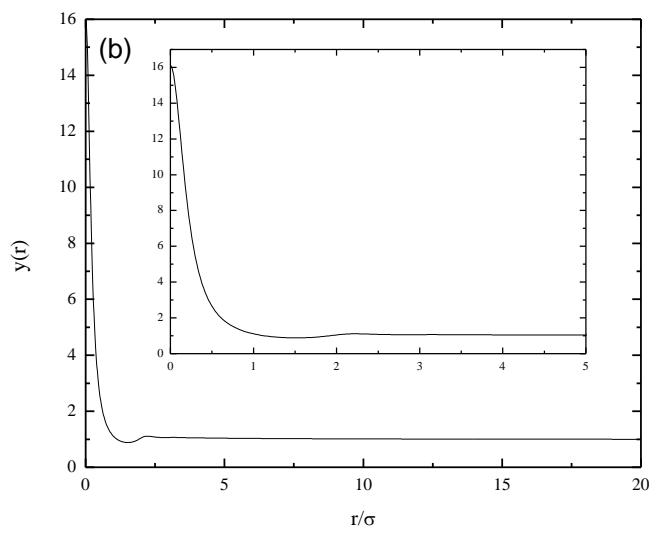
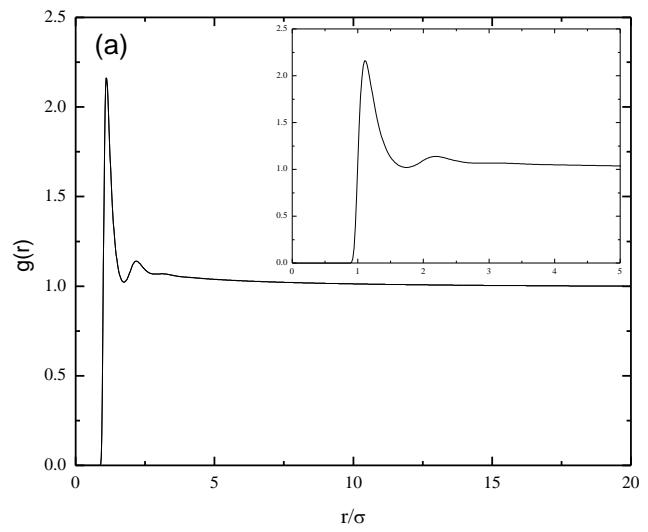


Figure S2. The radial distribution function (a), cavity correlation function (b) and bridge function (c) for  $T^* = 1.4, \rho^* = 0.280$ .



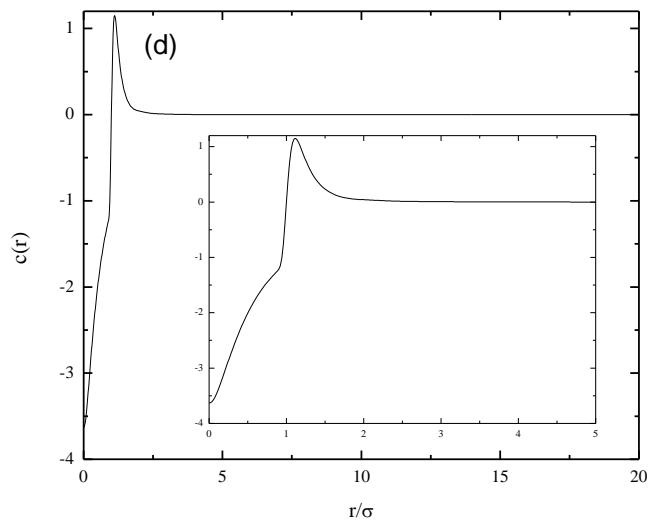
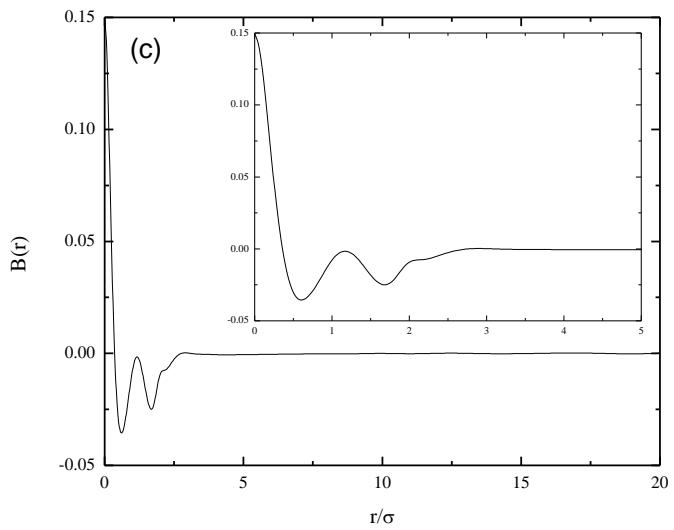


Figure S3. The radial distribution function (a), cavity correlation function (b), bridge function (c) and direct correlation (d) function computed from PY2 for  $T^* = 1.31, \rho^* = 0.25$ .