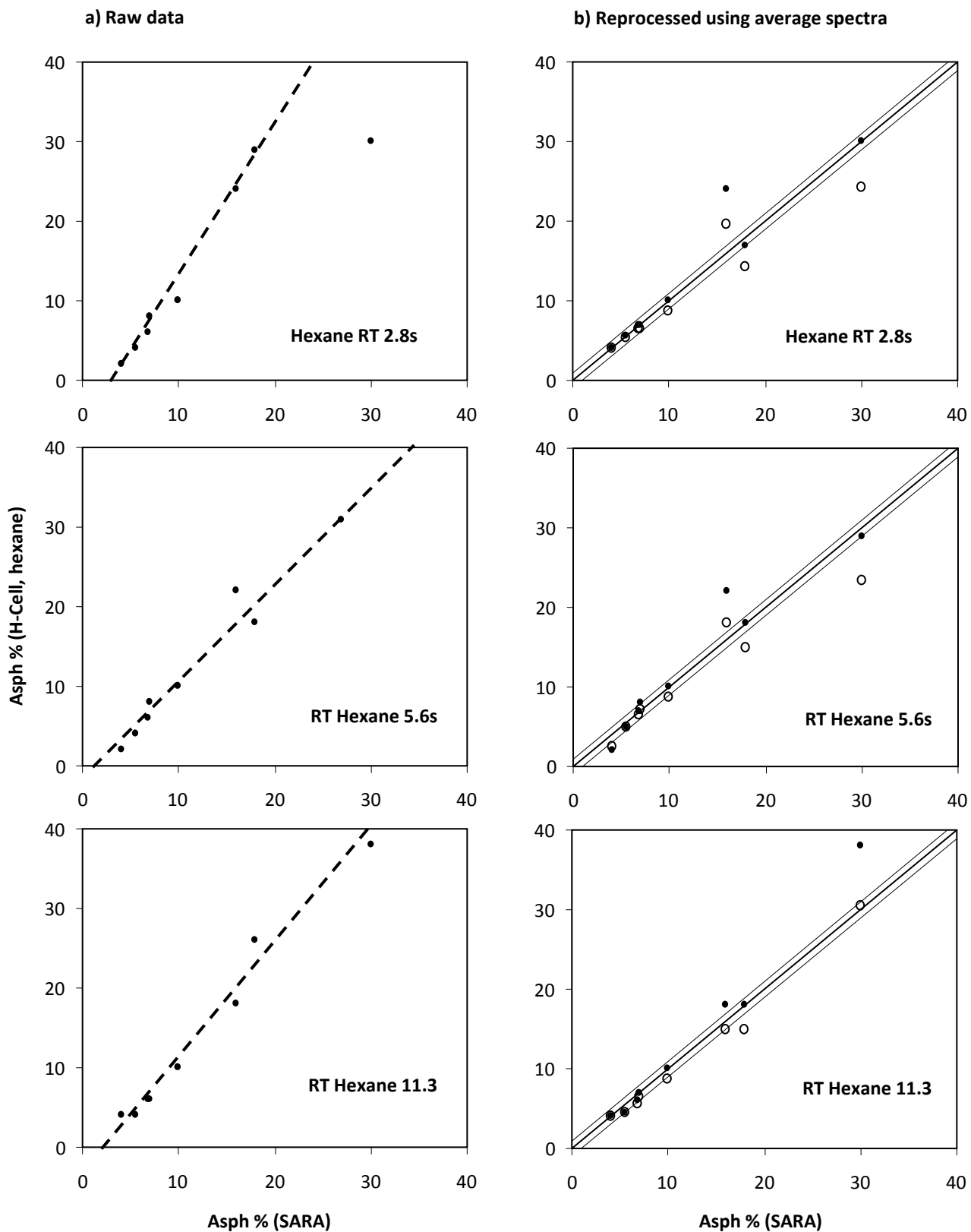
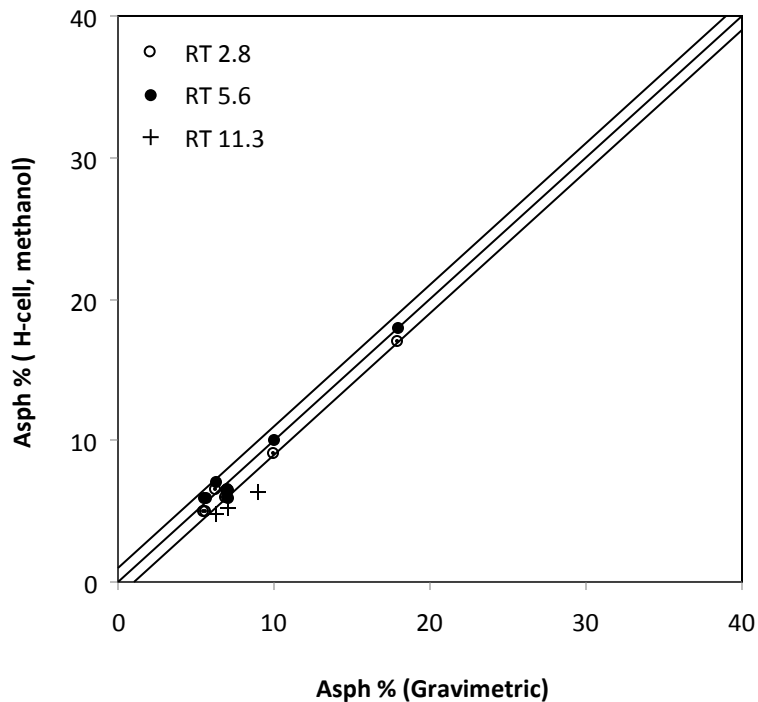


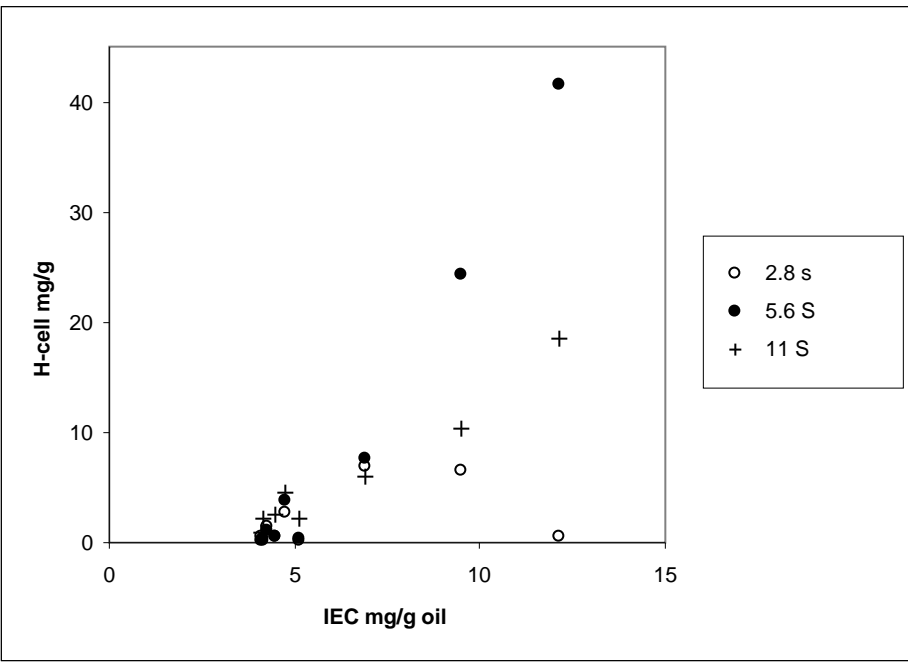
Supplementary 2. **LHS:** Raw data obtained by comparing asphaltene results from the H-Cell method (using hexane as the extracting solvent) with ASTM D4124², note intercept of least squares fitted straight line. **RHS:** Comparison of the results obtained by H-Cell method with ASTM D4124² after recalibration using straight line fitted in Figure 3b). Hollow circles is raw data using average asphaltene spectra, while black filled circles is data after calibrated.



Supplementary 3. Comparing asphaltene results from the H-Cell method (using methanol as the extracting solvent) with ASTM D4124² for all 3 residence times and using average spectra.



Supplementary 4. Comparison of the yield of methanol extractables with acid-fraction yields obtained by ion exchange chromatography⁸.



Supplementary 5. Acid fraction yields expressed as TAN values using approach presented in Borgund, et al.¹⁰ and Meridith et al.¹⁷ with TAN values obtained by ASTM D974-97⁶.

