

**SUPPLEMENTARY INFORMATION FOR:**

**Tertiary Amine Solvents having Switchable Hydrophilicity**

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Figure S1. <sup>1</sup>H NMR spectrum of polystyrene foam before dissolution in SHS.

Figure S2. <sup>1</sup>H NMR spectrum of dried polystyrene after recovery from the SHS.

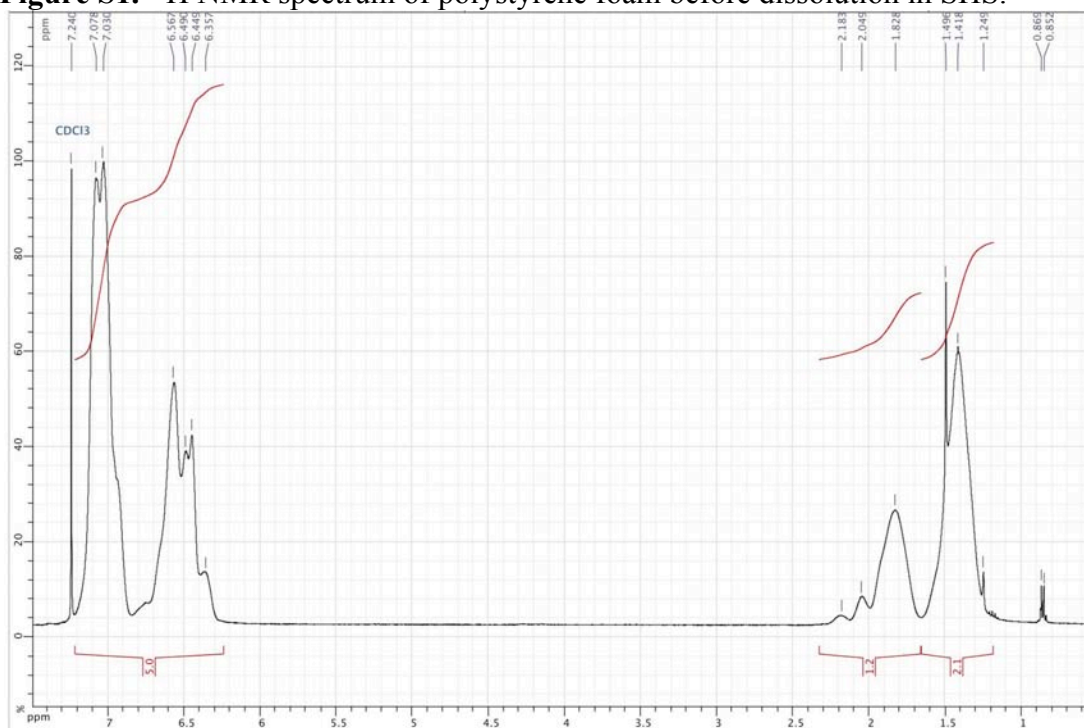
Figure S3. <sup>1</sup>H NMR spectrum of dried polystyrene after recovery from the SHS and subsequent passage through a single-screw extruder.

Figure S4. IR spectrum of polystyrene foam before dissolution in the SHS.

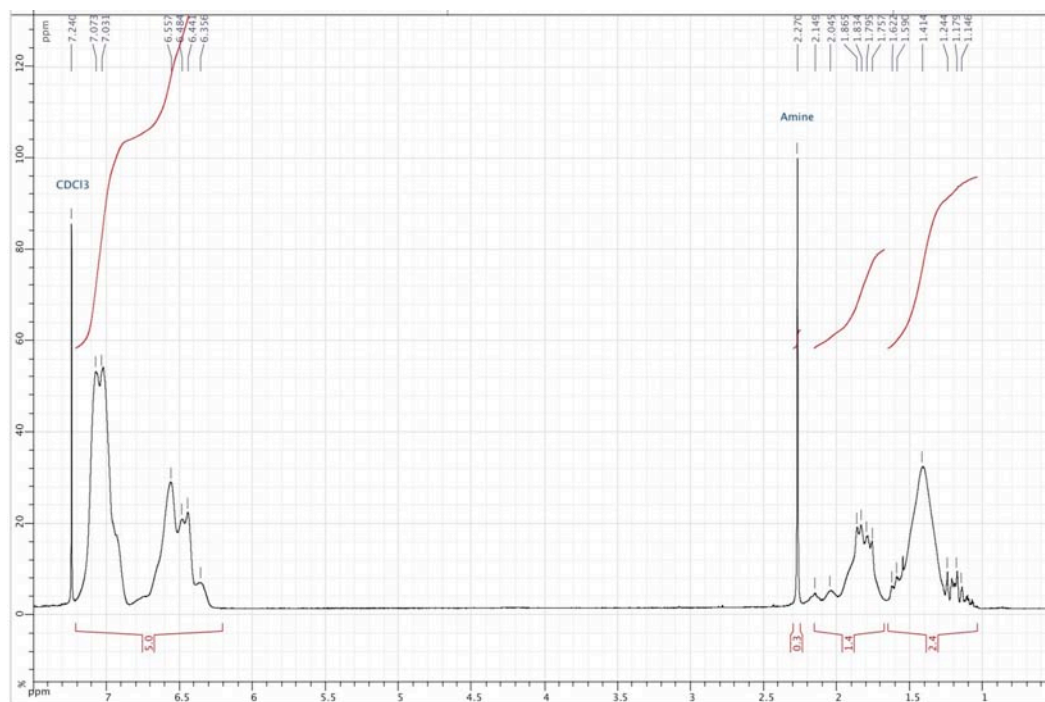
Figure S5. IR spectrum of dried polystyrene after recovery from the SHS.

Figure S6. IR spectrum of dried polystyrene after recovery from the SHS and subsequent passage through a single-screw extruder.

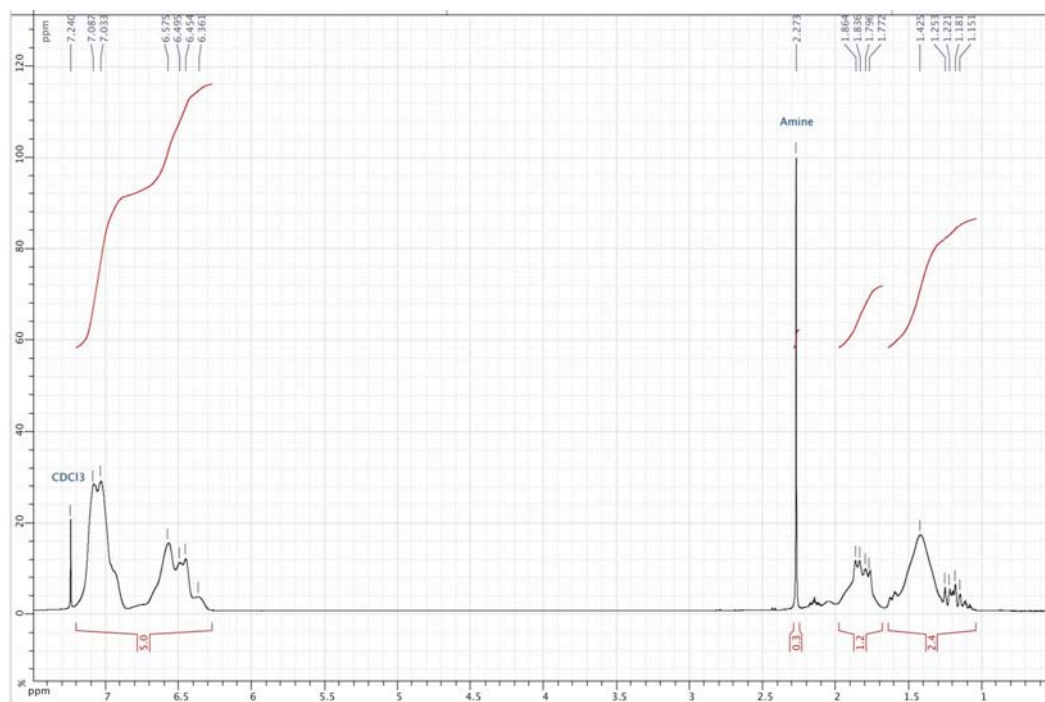
**Figure S1.** <sup>1</sup>H NMR spectrum of polystyrene foam before dissolution in SHS.



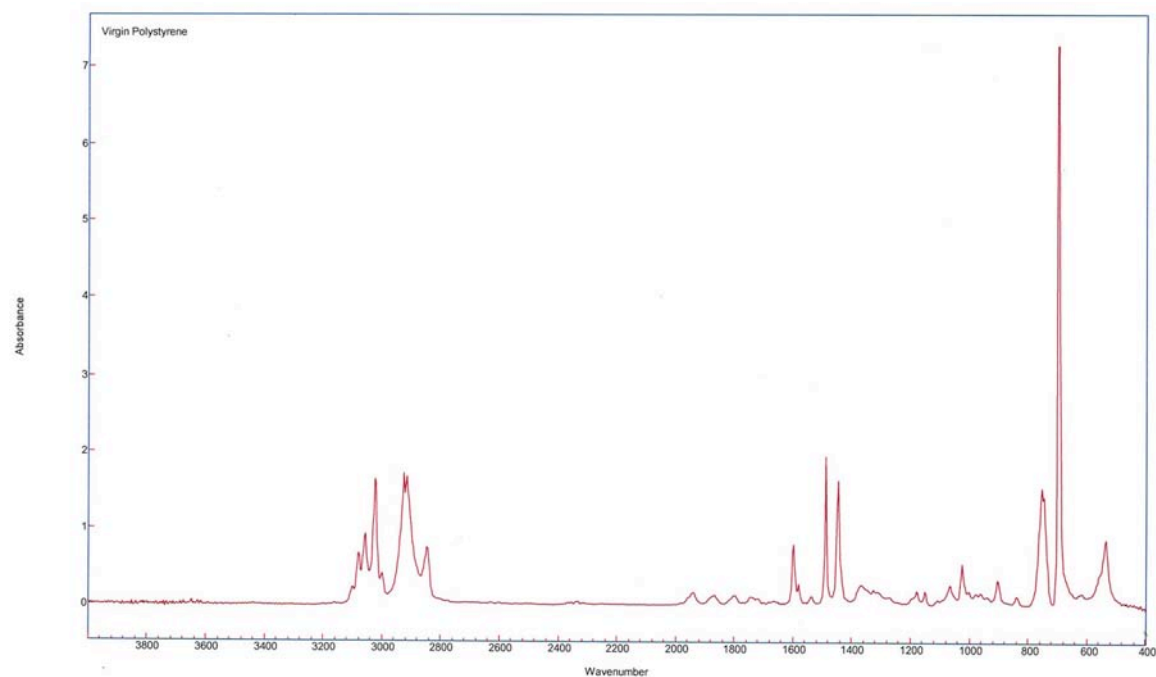
**Figure S2.**  $^1\text{H}$  NMR spectrum of dried polystyrene after recovery from the SHS.



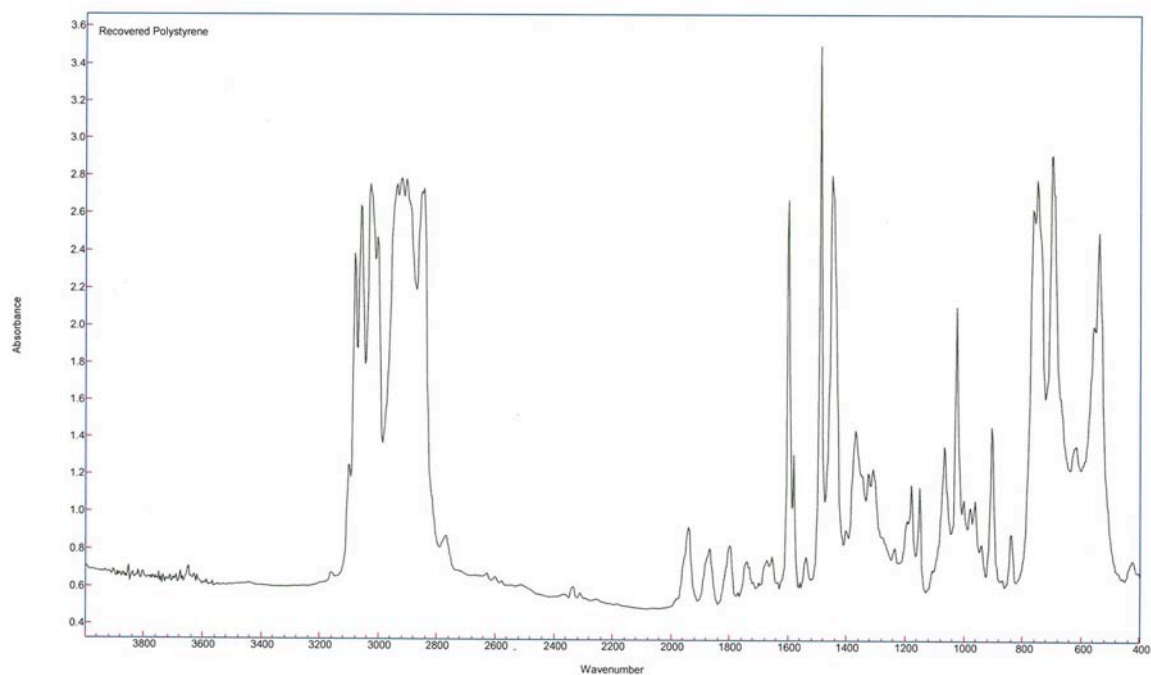
**Figure S3.**  $^1\text{H}$  NMR spectrum of dried polystyrene after recovery from the SHS and subsequent passage through a single-screw extruder.



**Figure S4.** IR spectrum of polystyrene foam before dissolution in the SHS.



**Figure S5.** IR spectrum of dried polystyrene after recovery from the SHS.



**Figure S6.** IR spectrum of dried polystyrene after recovery from the SHS and subsequent passage through a single-screw extruder.

