

Aggregation behavior of polystyrene-*b*-poly(acrylate acid) at the air-water interface

Xiaolu Wang^{a,b}, Xiaoyan Ma^{*a,b} and Duyang Zang^a

^a Key Laboratory of Space Applied Physics and Chemistry, Ministry of Education, Shaanxi province, School of Science, Northwestern Polytechnical University, Xi'an 710072, China. Fax: +86-29-88491826; Tel: +86-29-88431676; E-mail: m_xiao_yana@nwpu.edu.cn

^b Key laboratory of Polymer science and technology, Shaanxi province, School of Science, Northwestern Polytechnical University, Xi'an 710072, China.

Materials

Styrene (St, Tianjin Fuchen Chemical Reagents Co., A.R) was purified and vacuum-distilled prior to use. Acrylic acid (AA, Tianjin Fuchen Chemical Reagents Co., A.R) was vacuum-distilled and dehydrated. Benzyl dithiobenzoate (Advanced Technology & Industrial Co., Ltd.) was used as received. Zaodiisobutyronitrile (AIBN, Shanghai Shanpu Chemical Reagents Co., C.R) was purified by recrystallization and dried before use. N,N-dimethylformamide (DMF, Tianjin Fuyu fine Chemical Reagents Co., A.R) was dehydrated before use.

Polymerization Process

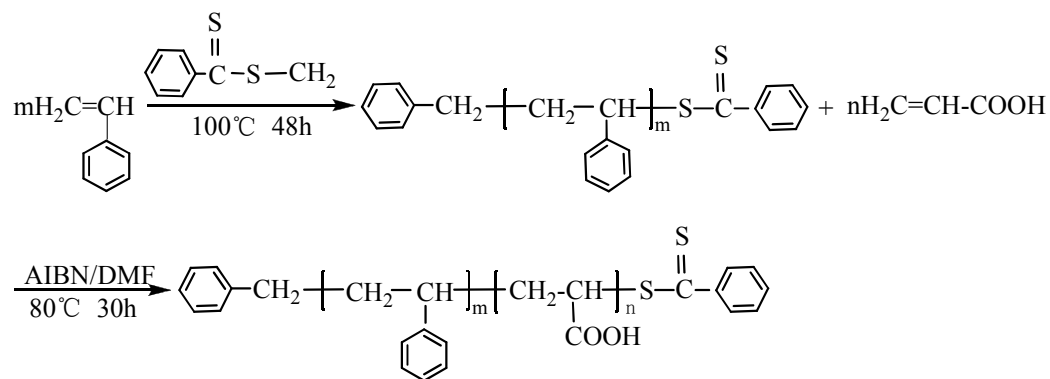


Figure S1. The process for synthesis of PS-*b*-PAA block copolymer.

Results

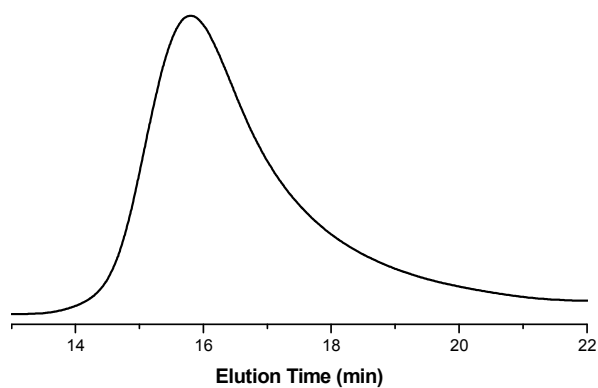


Figure S2. The GPC spectra of the PS macro-initiator measured in THF.

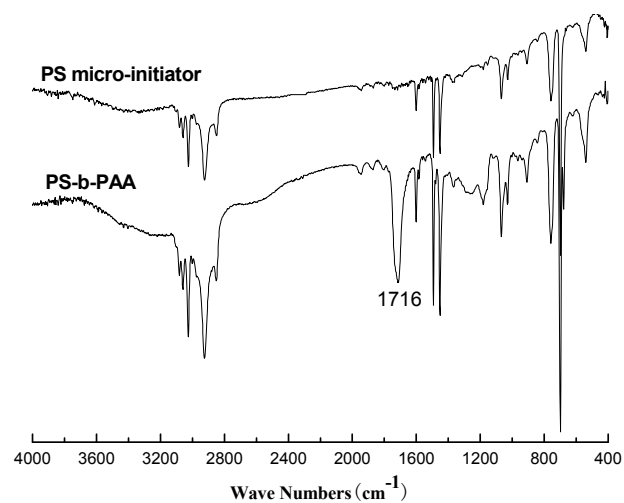


Figure S3. The FT IR spectra of the PS macro-initiator and block copolymer.

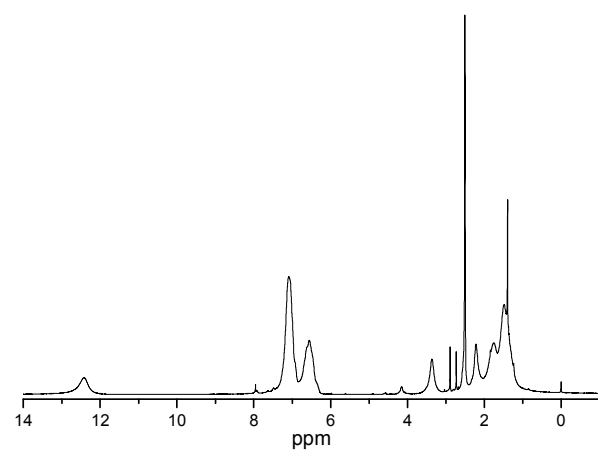


Figure S4. The ¹H NMR spectra of block copolymer measured in DMSO.

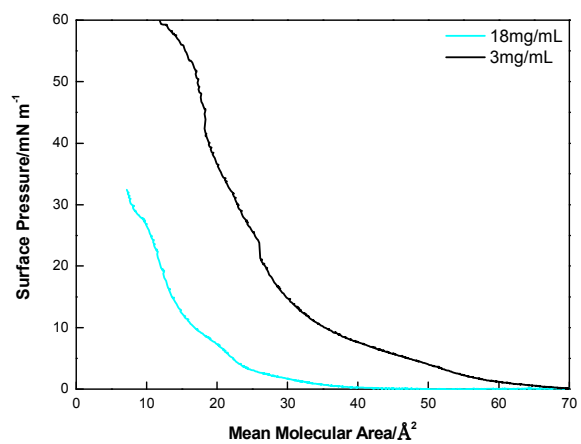


Figure S5. Compression isotherms of the PS-*b*-PAA copolymer at air-water interface, obtained from different spreading concentrations (3mg/mL, 18mg/mL)