

Supplementary Information:

Phenylethynyl and phenol end capping studies of polybiphenyloxydiphenylsilanes for cross-linking and enhanced thermal stability

Kerry Drake^{1,2}, Indraneil Mukherjee¹, Khalid Mirza¹, Frank Ji¹, Yen Wei^{1}*

1. Department of Chemistry, Drexel University, Philadelphia, PA 19104 USA
2. Greene Tweed & Co., 2075 Detwiler Road, Kulpsville, PA 19443 USA

CORRESPONDING AUTHOR

Yen Wei, Ph.D.

Herman B. Wagner Professor of Chemistry and Director of The Center for Advanced Polymers and Materials Chemistry

Department of Chemistry, Drexel University

3141 Chestnut Street

Philadelphia, Pennsylvania 19104, USA,

Tel. 215-895-2650; Fax 215-895-1265

Email: weiyen@drexel.edu

Keywords: aryl siloxane, silicone, elastomer, rheology, endcapping, lithiumphenylacetylide, phenylethynyl cross-linking, thermal cross-linking, high temperature polymerSupplementary Information

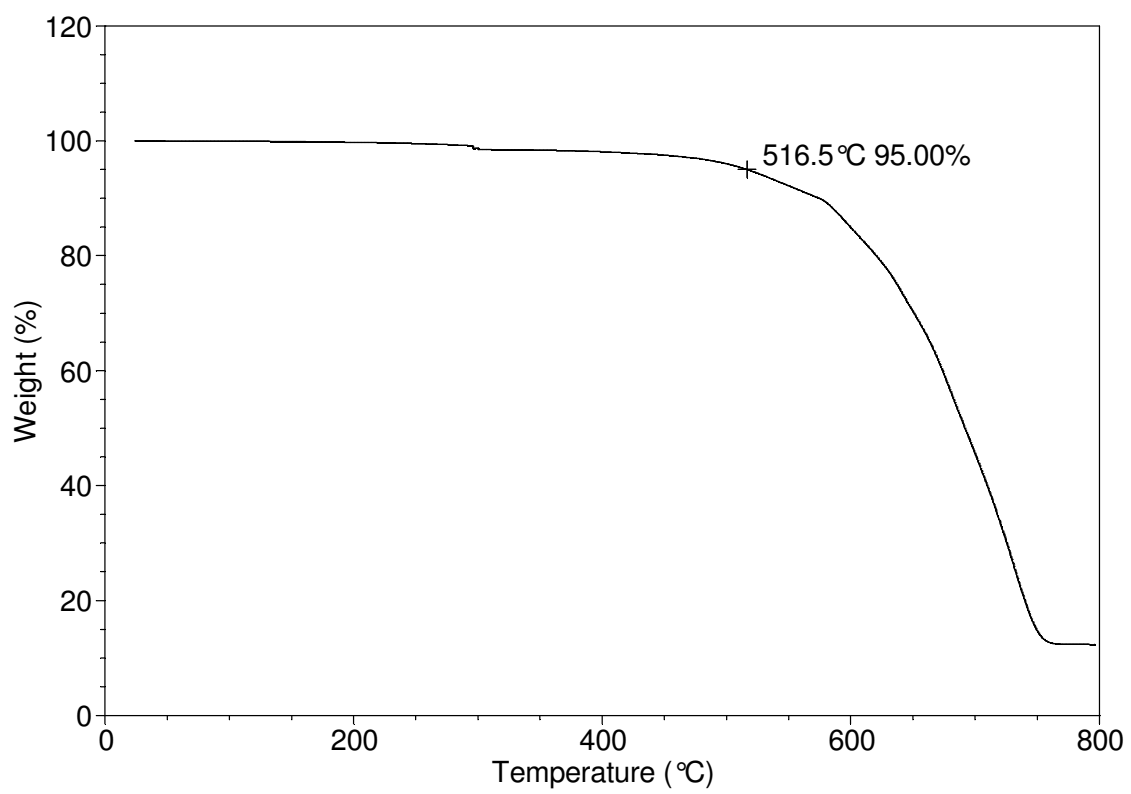


Figure S1. 5% weight loss temperature, in air, of a representative biphenylaryloxysilane polymer.

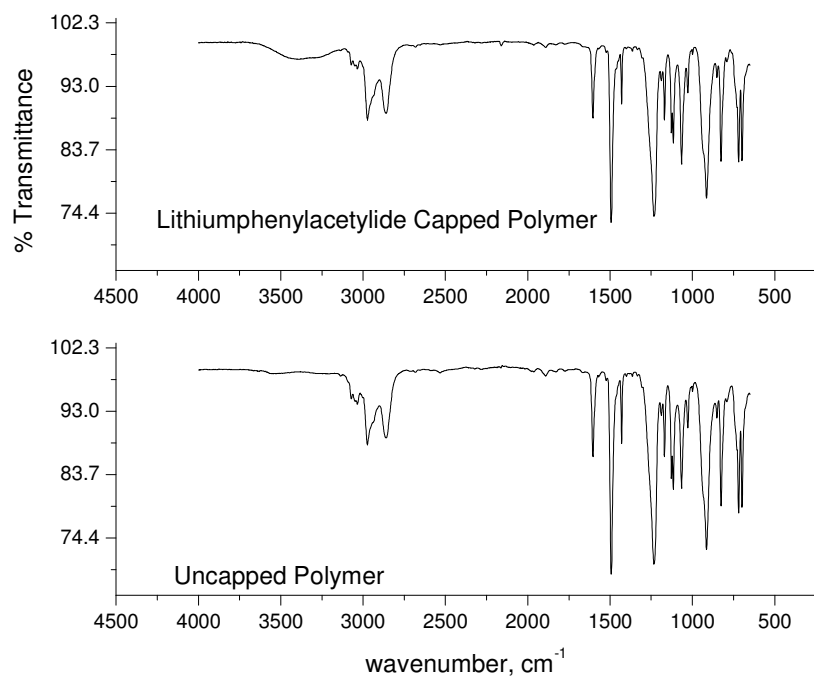


Figure S2. FTIR overlay of capped and lithiumphenylacetylide capped polymer (full scale).

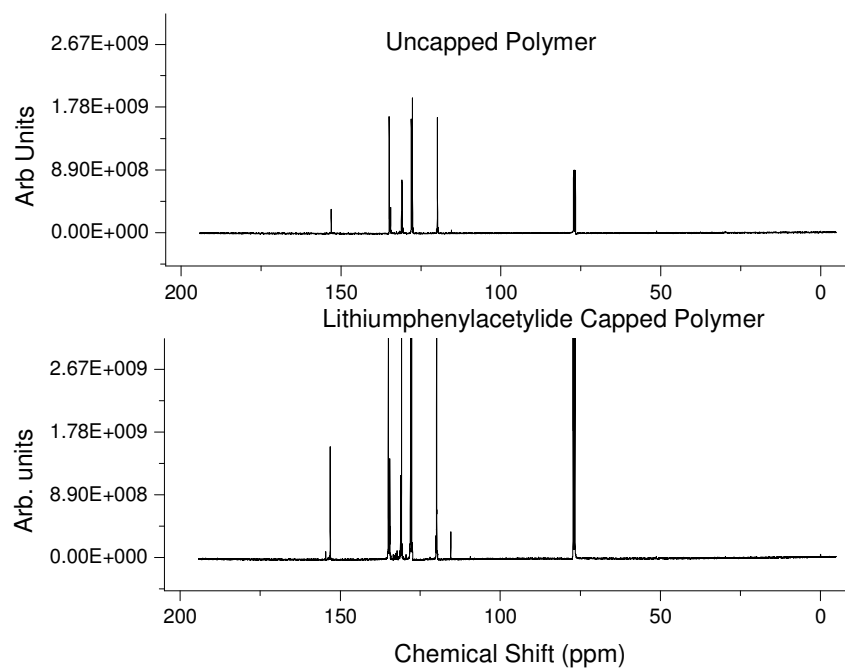


Figure S3. ^{13}C NMR spectrum of lithiumphenylacetylide capped and uncapped polymer (full scale).

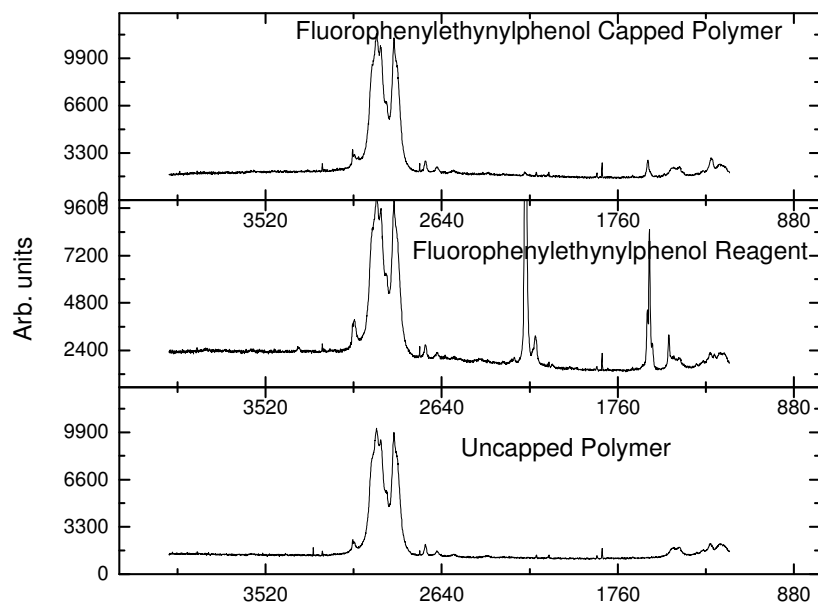
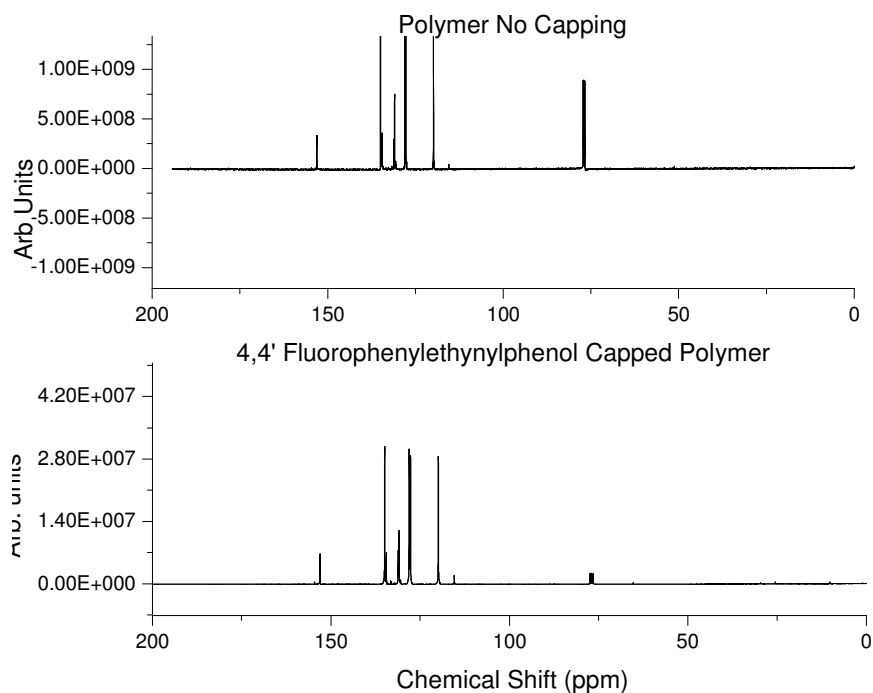


Figure S4. Raman spectrum of fluorophenylphenol capped polymer, with spectra of fluorophenylphenol reagent and uncapped polymer overlaid for comparison (full scale).



FigureS5. ¹³C NMR spectrum of fluorophenylethynylphenol capped polymer with an uncapped polymer spectrum overlaid for comparison.