

Supplementary information

Ferrocene-Based Terpolyamides and their PDMS Containing Block Copolymers: Synthesis and Physical Properties

**Irrum Mushtaq,^{1,3*} Erum Jabeen,² Zareen Akhter,^{3*} Fatima Javed,⁴ Azfar Hassan,⁵
Muhammad Saif Ullah Khan,³ Faheem Ullah,^{1,6} Faiz Ullah Shah^{7*}**

¹Department of Biological Sciences, National University of Medical Sciences, The Mall road,
Rawalpindi, 46000, Pakistan

²Department of Chemistry, Faculty of Science, Allama Iqbal Open University, Islamabad, 44310,
Pakistan

³Department of Chemistry, Quaid-i-Azam University, Islamabad, 45320, Pakistan

⁴Department of Chemistry, Shaheed Benazir Bhutto Women University, Peshawar, 25000,
Pakistan

⁵Department of Chemical and Petroleum Engineering, University of Calgary, Calgary, AB, T2N
1N4 Canada

⁶School of Materials and Mineral Resources Engineering, Engineering Campus, University Sains
Malaysia Nibong Tebal, 14300, Palau Penang, Malaysia

⁷Chemistry of Interfaces, Luleå University of Technology, SE-971 87 Luleå, Sweden

Corresponding authors:

Irrum Mushtaq
Irrum.mushtaq@numspak.edu.pk

Zareen Akhter
Zareen_a@qau.edu.pk

Faiz Ullah Shah
faiz.ullah@ltu.se

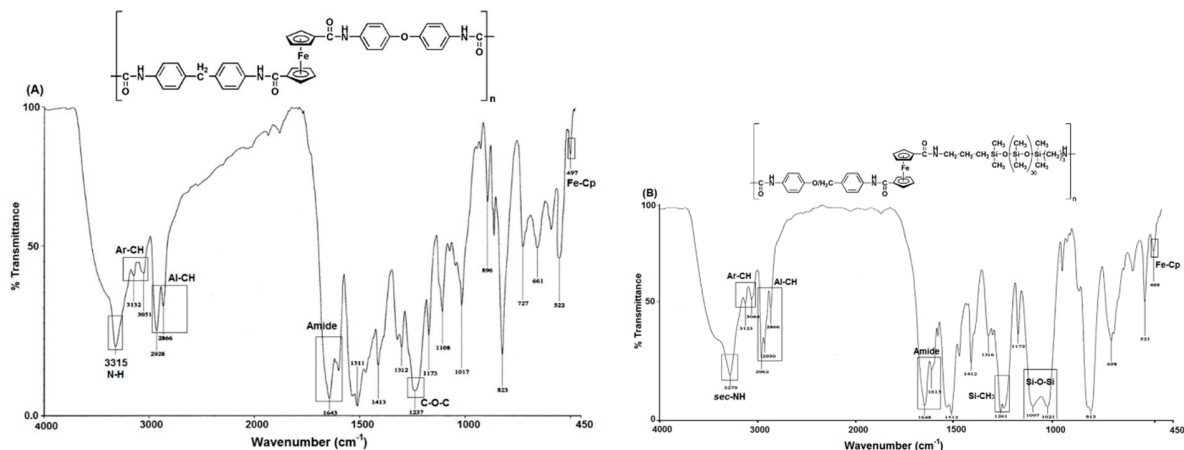


Figure S1. Representative FTIR spectra. (A) Terpolyamide (F2), and (B) block copolymer (PF2).

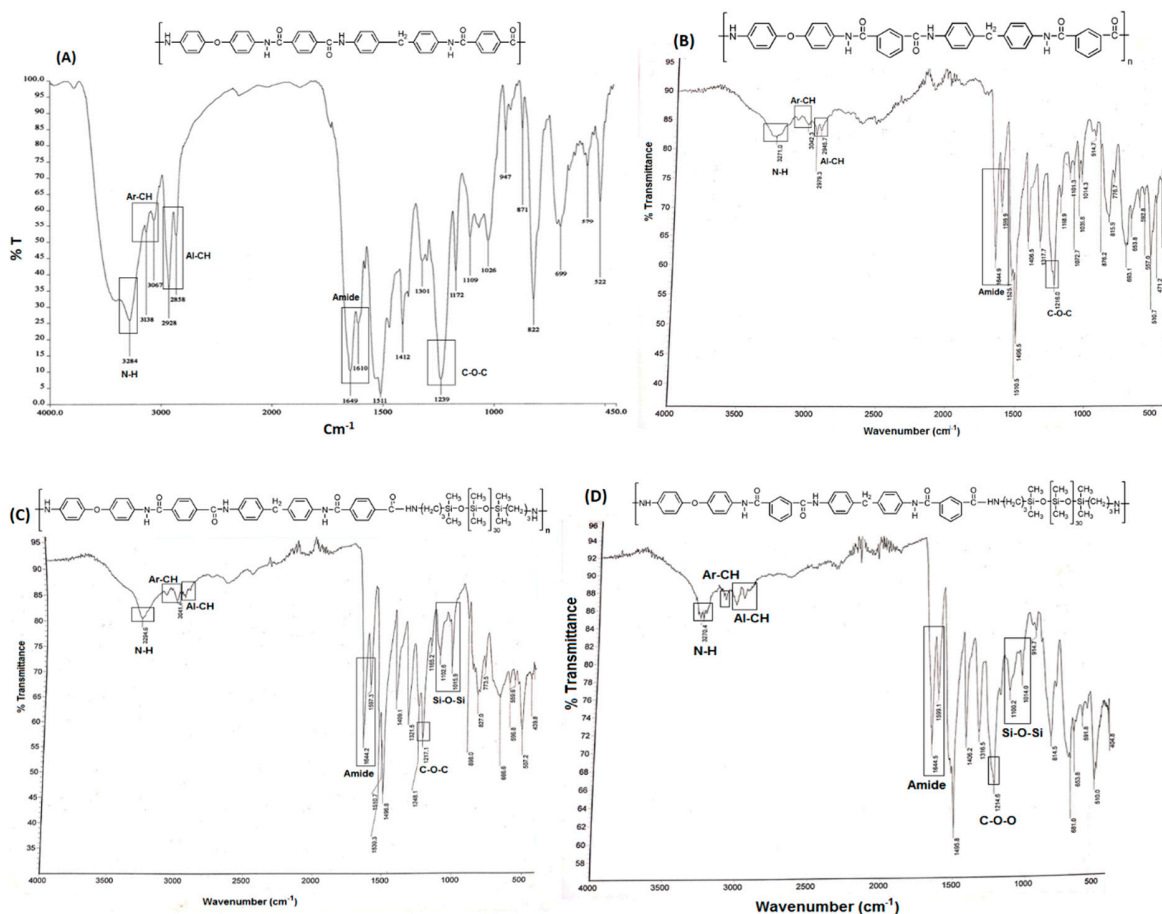


Figure S2. FTIR spectra of representative terpolymers (A) T2, and (B) I2 and their PDMS containing block copolymers (C) PT2, and (D) PI2.

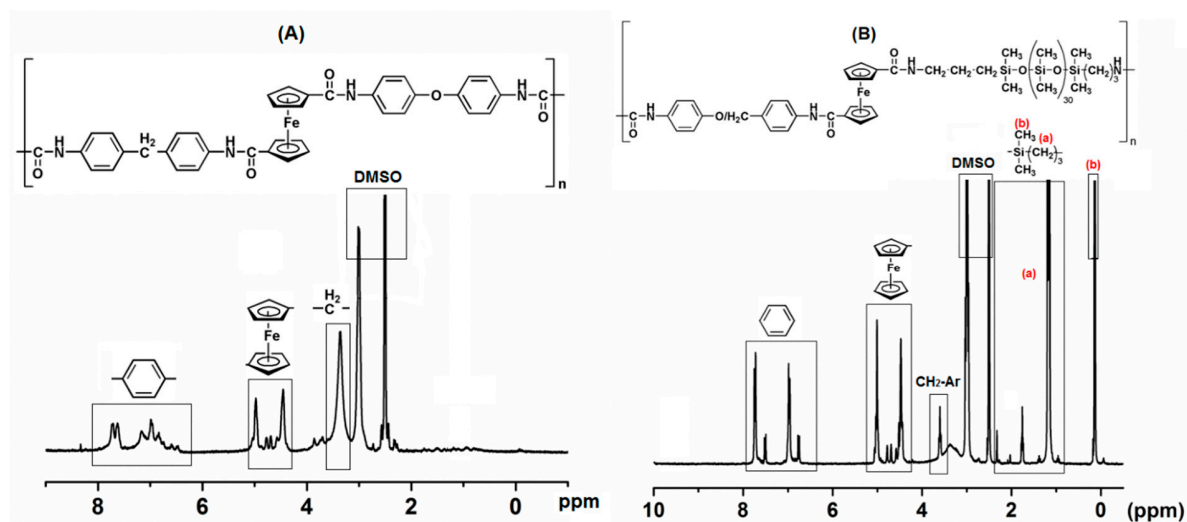


Figure S3. ^1H NMR spectra. (A) Ferrocene-based terpolyamide (F2), (B) Ferrocene-based PDMS containing block copolymer.

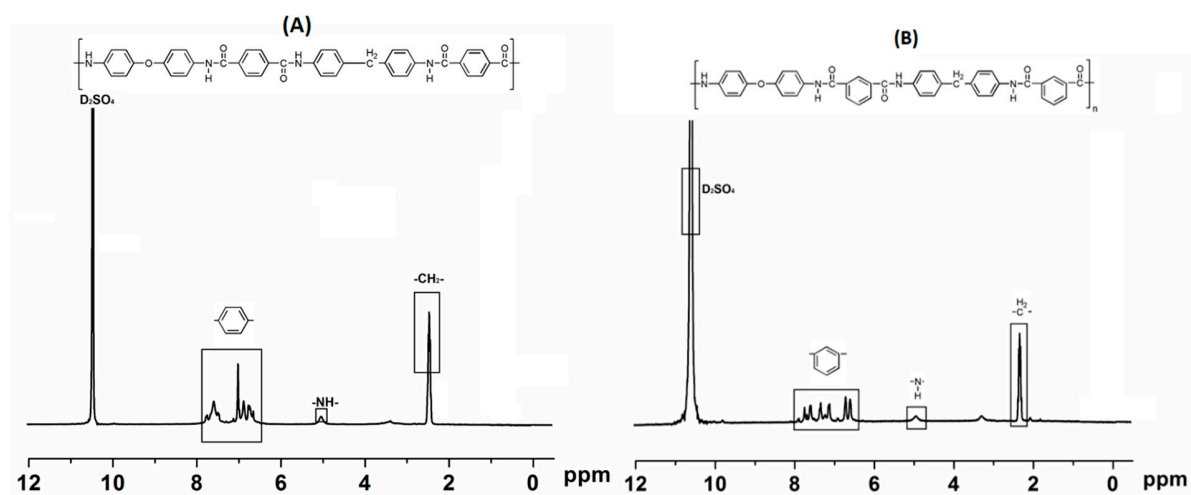


Figure S4. ^1H NMR spectra of the representative organic analogues (A) T2 and (B) I2.

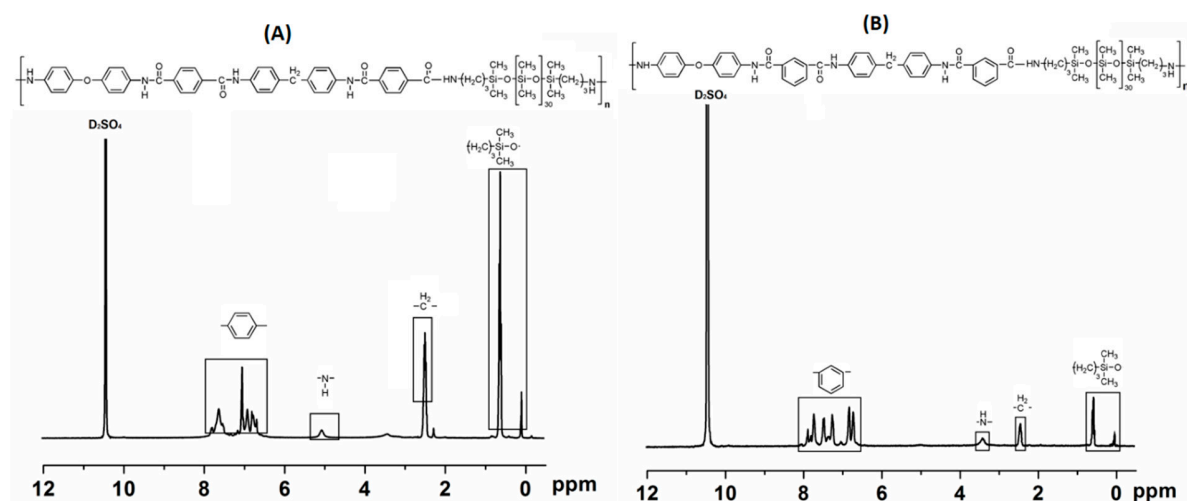
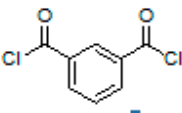
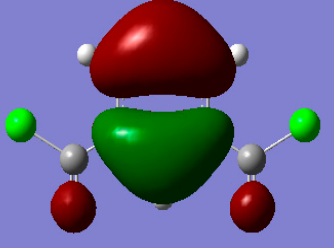
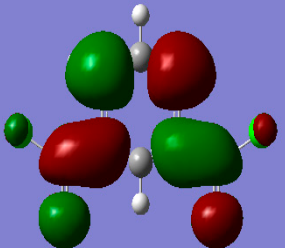
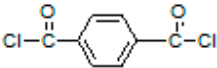
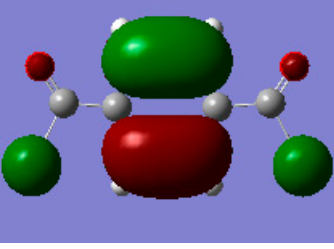
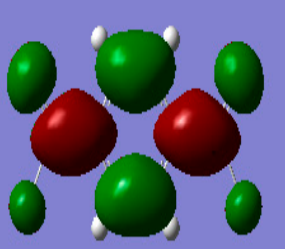

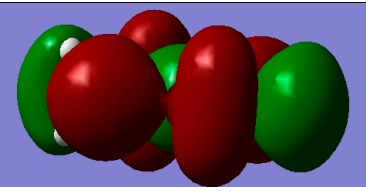
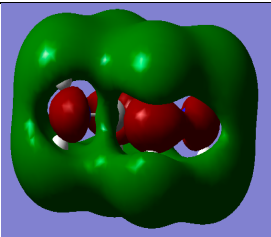
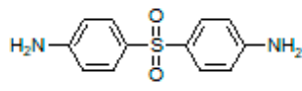
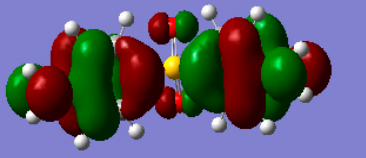
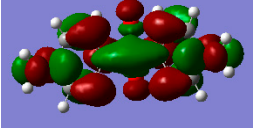
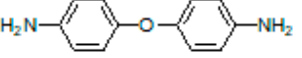
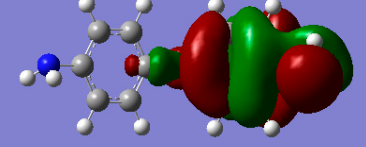
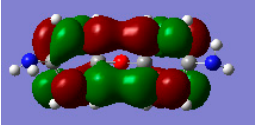
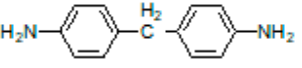
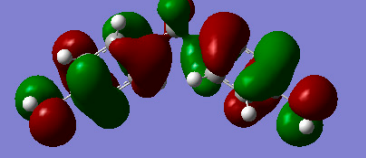
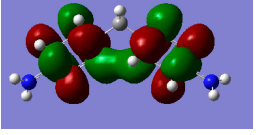


Figure S5. ^1H NMR spectra of the representative organic analogues of PDMS containing block copolymers (A) PT2 and (B) PI2.

Table S1. Computed HOMO and LUMO spread of small monomeric units computed at DFT/B3LYP/6-311G**(d, p) basis set.

Codes	Structures	HOMO	LUMO
M1			
M1'			

M2			
M3			
M4			
M5			
M6	