Abstract

The water soluble polythiophe–based polyelectrolytes, namely poly{3-[6-(triethylphosphonium) hexyl]-thiophene-2,5-diyl bromide} bearing the same ionic pendant groups but different in polymer main chain regioregularity 62 and 94% and molecular weight, respectively have been tested in order to study them as possible luminescent chemo-sensors. The fluorescent quenching with metals ions (Fe^{2+}, Ni^{2+}, Zn^{2+}, Cd^{2+}, Cu^{2+}, Cs^{+}, Co^{2+} and Ag^{+}) has been studied in water as a detailed survey. In order to continue and extend the study of various conjugated polymers as alternative luminescent sensors, luminescence quenching of poly(1-phenyl-1-hexyne) compound has been tested with nitrobeneze as a quenching agent. Final structure modification of model compound and preparation the phosphonium or ammonium based conjugated polyelectrolyte and consequent interaction with metal ions are planned for the future.

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