Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Self-assembled multimicellar vesicles via complexation of a rigid conjugated polymer with amphiphilic block copolymer

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PANI/PMMA-*b*-PAA complexes at 29 wt % water content

At water contents less than 50 wt %, the solution appeared bluish green colour may be due to partial protonation of PANI. Figure S1 shows the UV-visible spectra of PANI and PANI/PMMA-*b*-PAA complexes at different [ANI]/[AA] molar ratios at 29 wt % water content. In addition to polaron and bipolaron bands at 440 nm and 800 nm, benzenoid and exciton bands at 320 nm and 590 nm were also observed respectively as result of partial protonation of PANI. The bluish green coloured solution observed at 29 wt % water content transformed into dark green solution at 50 wt % water content (Figure S2g).

Furthermore, in pure PMMA-*b*-PAA block copolymer, a mild decrease in pH (from pH 5.1 to pH 4.7) was noticed upon increasing water content up to 50 wt %. This may be due to increase in PAA dissociation with increasing water content. In case of PANI/PMMA-*b*-PAA complexes, a decrease followed by increase in pH was observed may be due to neutralization of PAA blocks by PANI base. Figure S2 shows photograph of homopolymer/block copolymer solutions and complexe aggregates at various molar ratios used in this study.

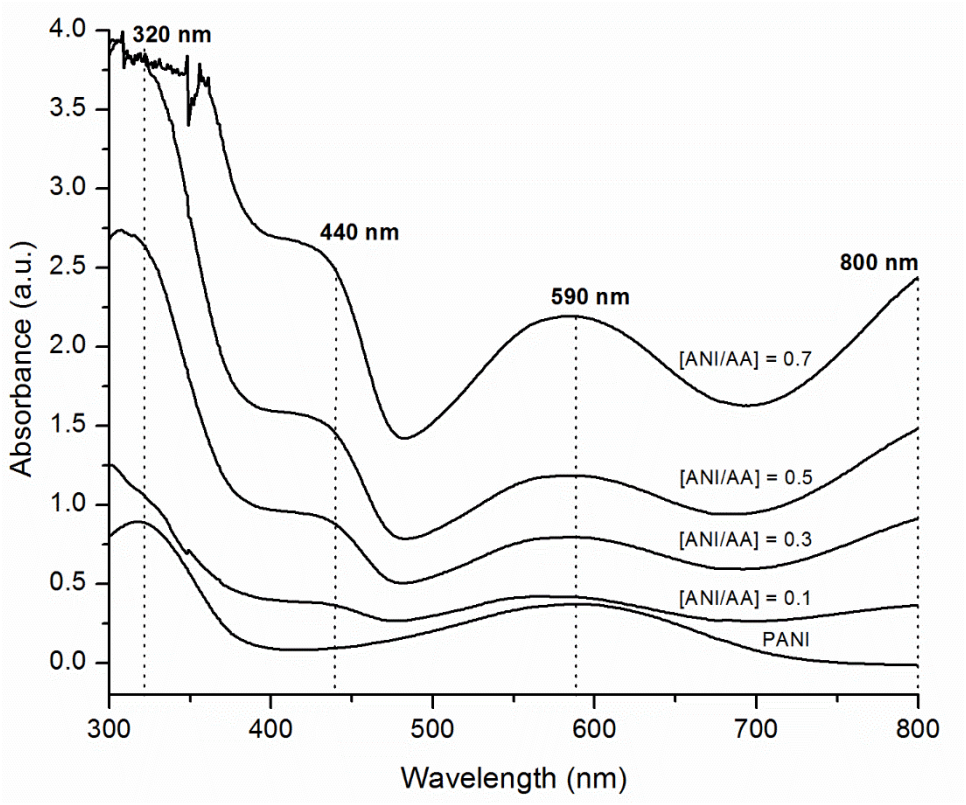

Figure S1. UV-visible spectra of PANI/THF and PANI/PMMA-*b*-PAA complexes in THF/water solution at 29 wt % water content.

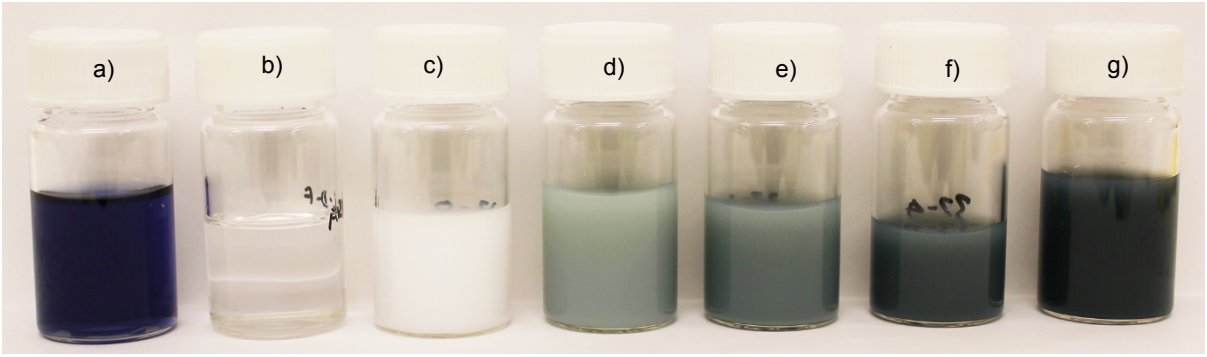

Figure S2. Photograph of PANI-EB and PMMA-*b*-PAA in THF (a, b), PANI/PMMA-*b*-PAA complexes at [ANI]/[AA] ratios c) 0 d) 0.1 e) 0.3 f) 0.5 and g) 0.7 in aqueous solution.