Electronic Supplementary Material (ESI) for Polymer Chemistry.

Supporting information

Amphiphilic glycosylated block copolypeptides as macromolecular surfactants in the emulsion polymerization of styrene

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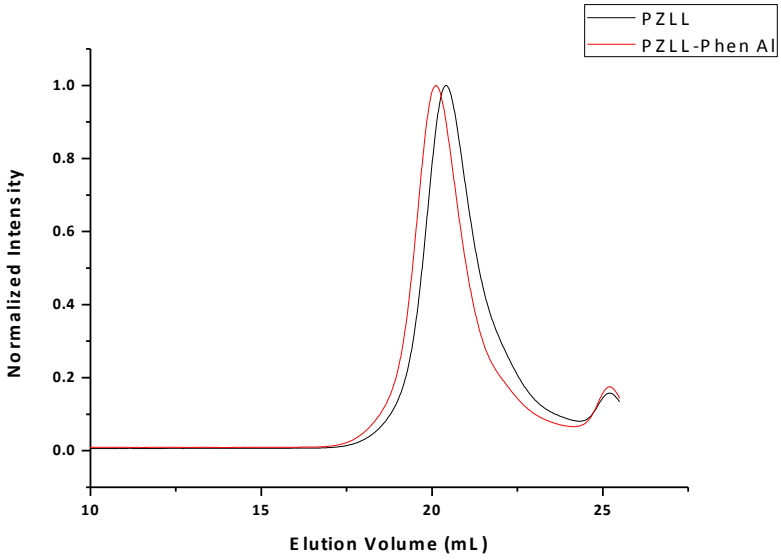

Figure S1: SEC traces of $PZLL_{59}$ (black) and $PZLL_{59}$-*b*-PPA_{24} (**1,** red).

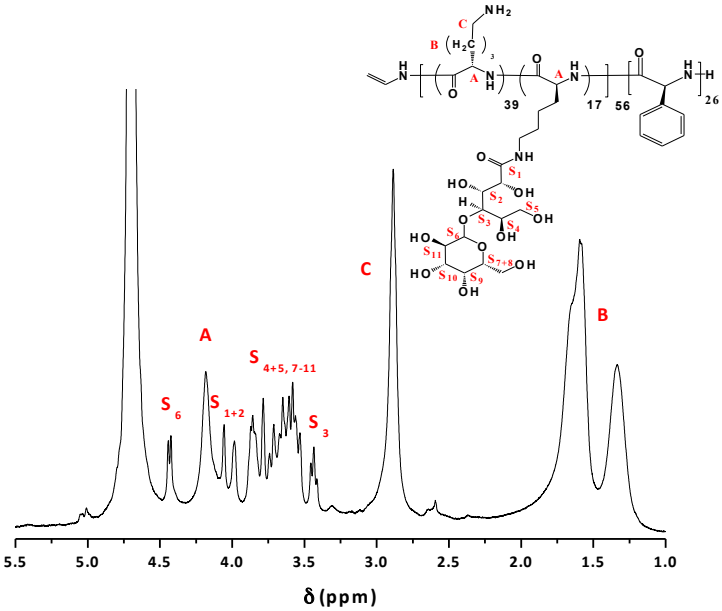

Figure S2: ^{1}H-NMR spectra (D_2O, 400 MHz) of LA_{17}-*r*-PLL_{42}-*b*-PPA_{24}.

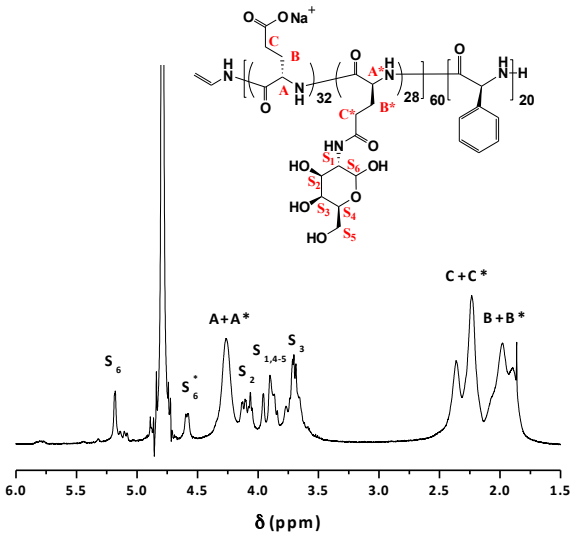

Figure S3: ^{1}H-NMR spectra (D_2O, 400 MHz) of GA_{28}-*r*-$PLGA_{32}$-*b*-PPA_{20}.

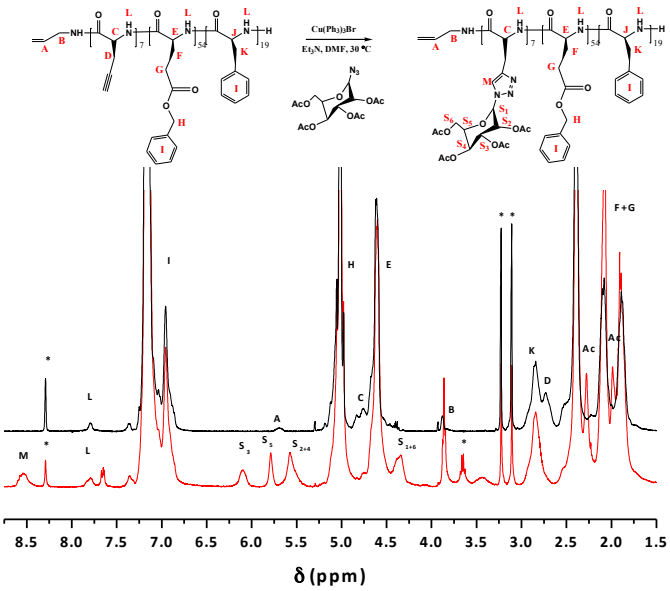

Figure S4: ^{1}H-NMR spectra (TFA-d, 400 MHz) of PGL_7-*b*-$PBLG_{56}$-*b*-PPA_{19} (**3**, top) and $GalAc_7$-*b*-$PBLG_{56}$-*b*-PPA_{19} (**5**, bottom). The * signals are due to DMF.

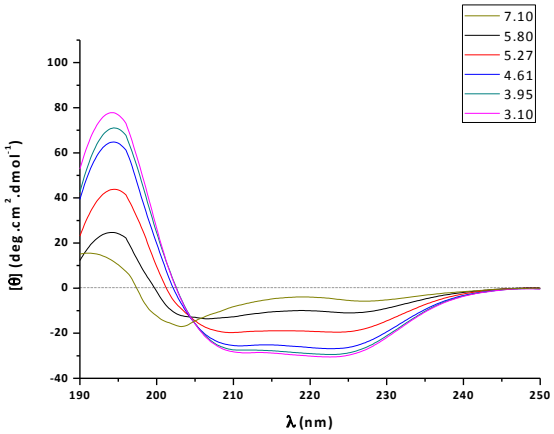

Figure S5: CD spectra of aqueous solutions of GA_{28}-*r*-$PLGA_{32}$-*b*-PPA_{20} as a function of pH.

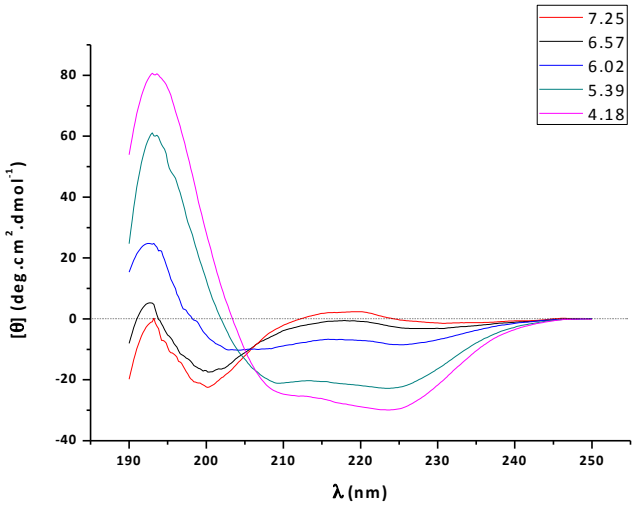

Figure S6: CD spectra of aqueous solutions of PGL_7-*b*-$PBLG_{56}$-*b*-PPA_{19} as a function of pH.

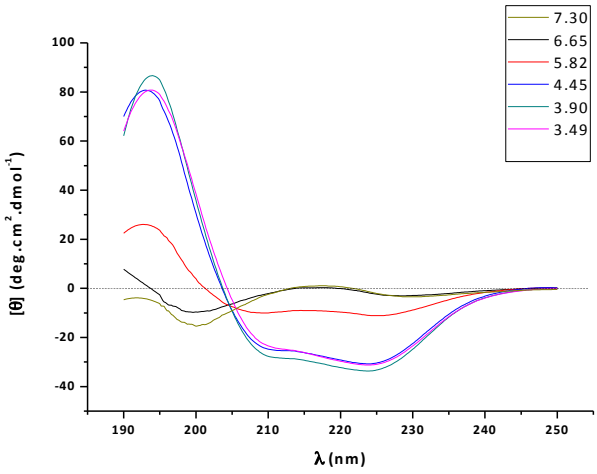

Figure S7: CD spectra of aqueous solutions of Gal_7-*b*-$PBLG_{56}$-*b*-PPA_{19} as a function of pH.

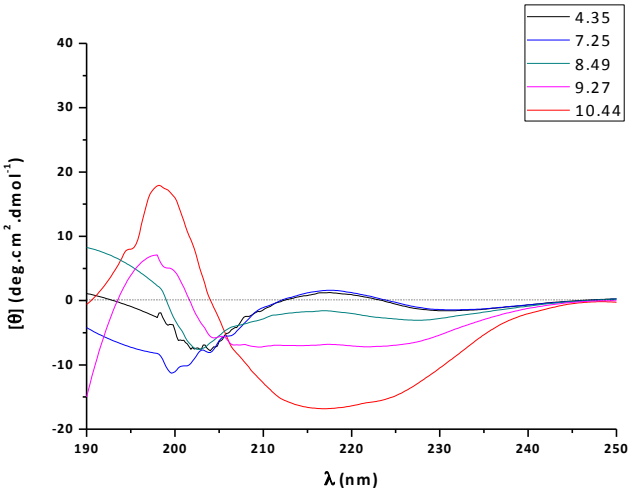

Figure S8: CD spectra of aqueous solutions of PLL_{59}-*b*-PPA_{24} as a function of pH.

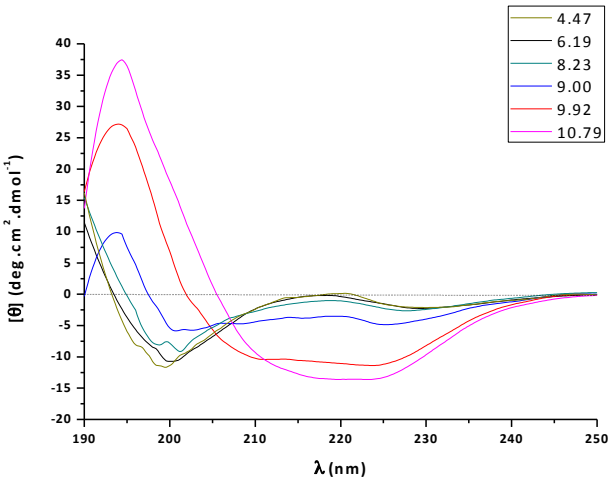

Figure S9: CD spectra of aqueous solutions of LA_{17}-r-PLL_{42}-*b*-PPA_{24} as a function of pH.

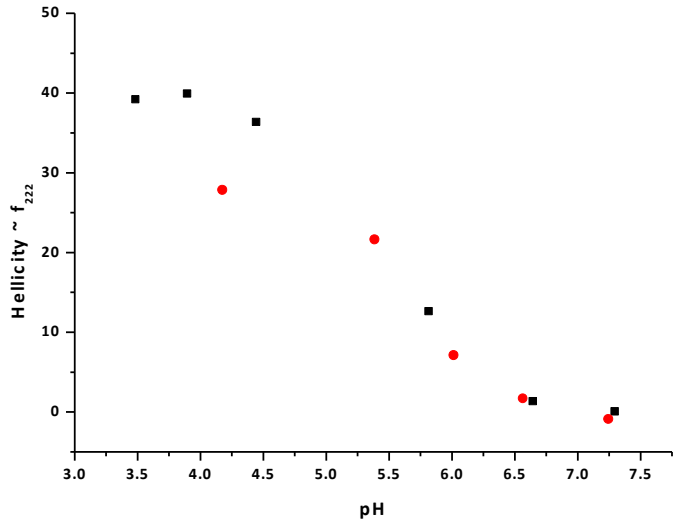

Figure S10: Estimated helicities determined for the native copolypeptide, $PArg_7$-*b*-$PBLG_{56}$-*b*-PPA_{19} (●) and its glycosylated counterpart, Gal_7-*b*-$PBLG_{56}$-*b*-PPA_{19} (■) as a function of pH.

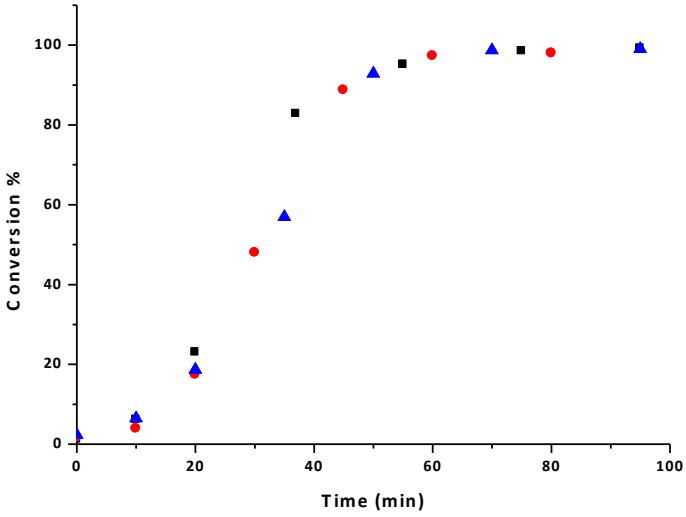

Figure S11: Evolution of monomer conversion with time for the emulsion polymerization of styrene using KPS as initiator (1 wt%), a monomer content of 12 wt% and surfactant content of 5 wt% (■), a monomer content of 15 wt% and surfactant content of 5 wt% (●),a monomer content of 15 wt% and surfactant content of 2 wt% (▲) with GA_7-*b*-$PLGA_{56}$-*b*-PPA_{19} as stabilizer.

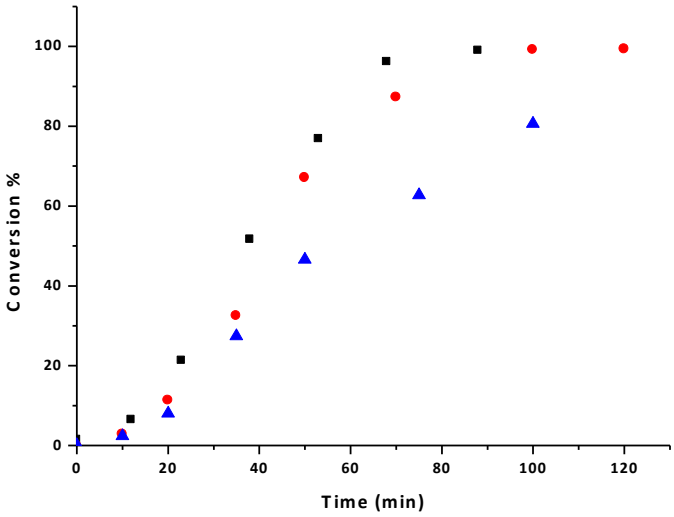

Figure S12: Evolution of monomer conversion with time for the emulsion polymerization of styrene using KPS as initiator (1 wt%), a monomer content of 12 wt% and surfactant content of 5 wt% (■), a monomer content of 15 wt% and surfactant content of 5 wt% (●), a monomer content of 15 wt% and surfactant content of 2 wt% (▲) with LA_{17}-*r*-PLL_{42}-*b*-PPA_{24} as stabilizer.

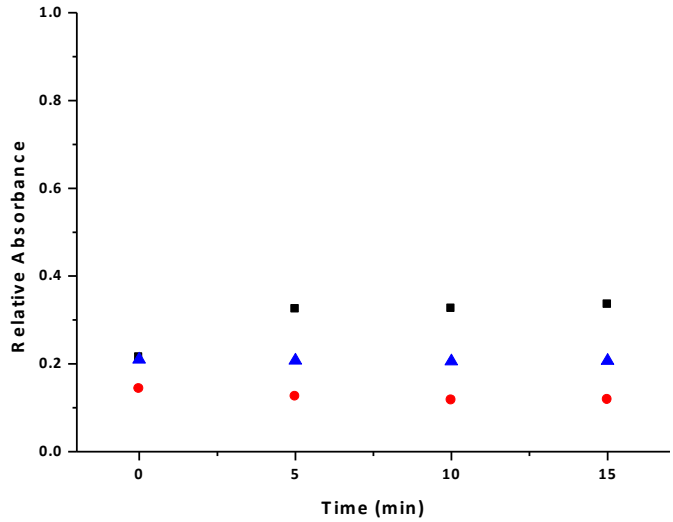

Figure S13: Turbidity measurements of the amphiphillic copolypeptides GA_{28}-*r*-$PLGA_{32}$-*b*-PPA_{20} (■), LA_{17}-*r*-PLL_{42}-*b*-PPA_{24} (●) and Gal_7-*b*-$PLGA_{56}$-*b*-PPA_{19} (▲) in the presence of lectin RCA_{120}. The spectra show qualitative UV absorbance at 350 nm indicating lectin binding of the galactose moieties.