Electronic Supplementary Material (ESI) for Polymer Chemistry.

Supplementary Information for 'Linear ABC Amphiphilic Triblock Copolymers for Complexation and Protection of dsRNA'

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Solvent	Monomer/Polymer						
	QDMAEMA	PQDMAEMA	TBA	Q-*b*-B	DMA	Q-*b*-B-*b*-D	Q-*b*-D
H_2O	y	y	n	n	y	n	y
Ethanol	y	y	y	y	y	y	
Acetone	y*	n	y	n			n
Hexane	n	n	n	n			
Methanol		y	y	y			
IPA		n	y				
Toluene		n	y/n				
DCM		n	y				
Diethyl ether			y	n			

Table S1. Solubility testing of monomers and polymers, to determine optimal solvent choice for each stage of the polymerisation. * = only with added ethanol.

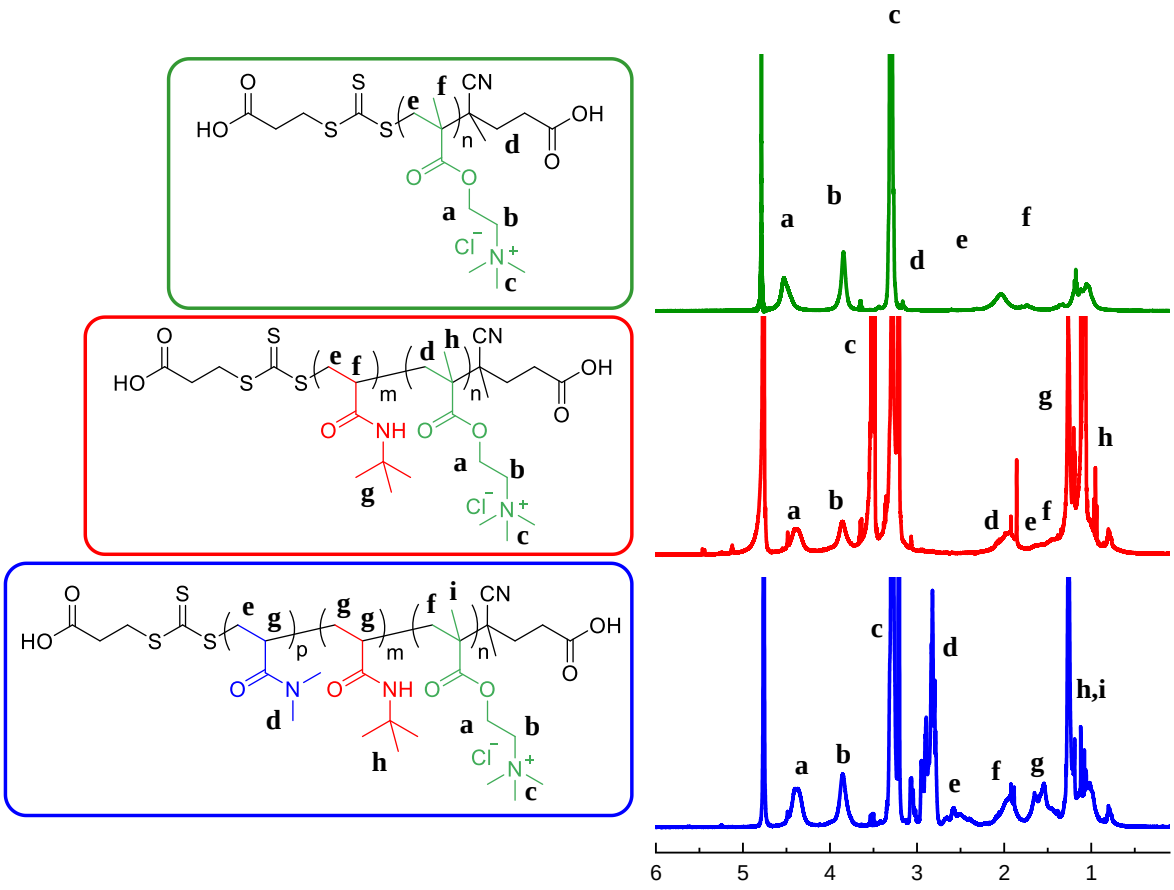

Figure S1. ^{1}H NMR (400 MHz) spectra of the homopolymer Q_{100}, the diblock copolymer Q_{100}-*b*-B_{25} and the triblock copolymer Q_{100}-*b*-B_{25}-*b*-D_{55}, respectively.

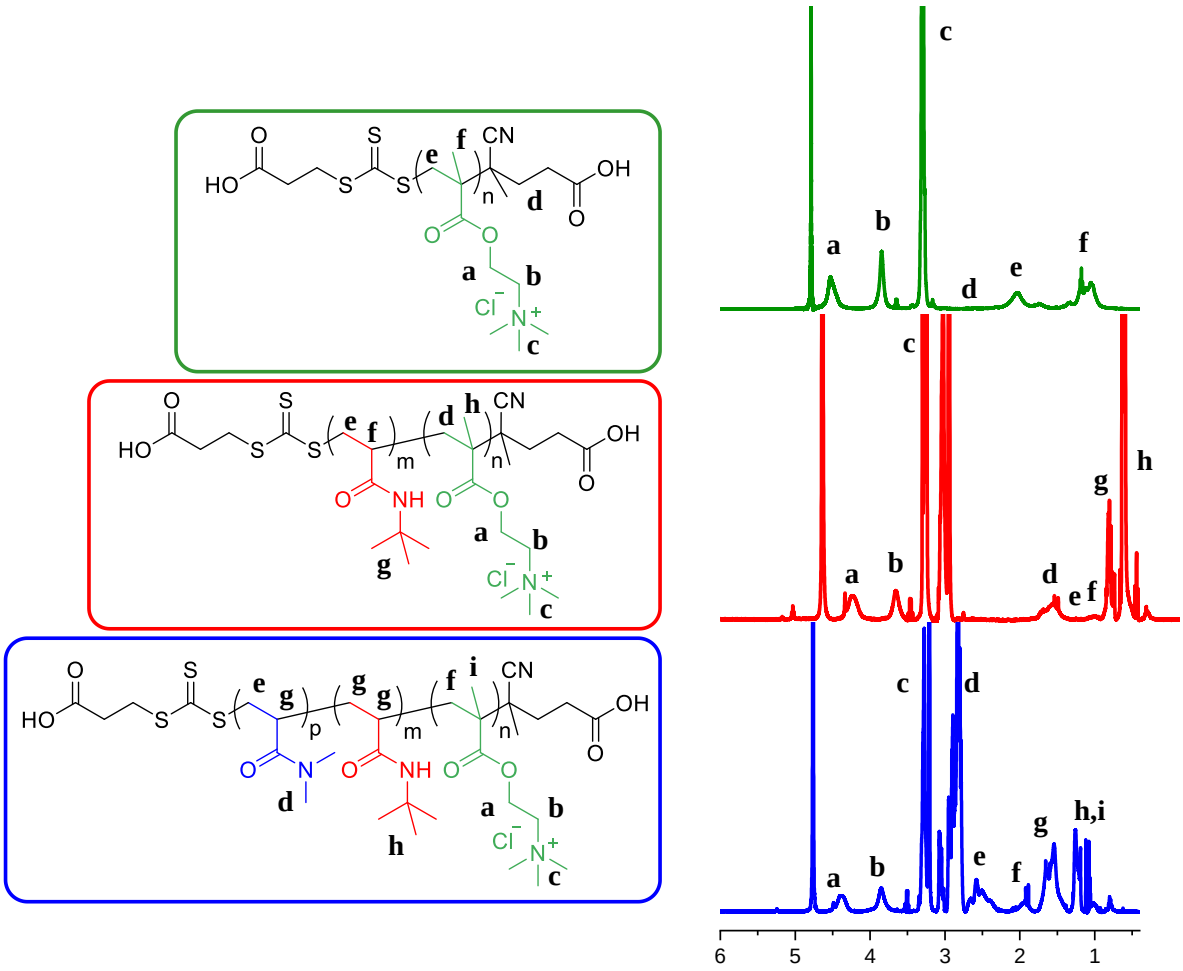

Figure S2. ^{1}H NMR (400 MHz) spectra of the homopolymer Q_{100}, the diblock copolymer Q_{100}-*b*-B_{17} and the triblock copolymer Q_{100}-*b*-B_{17}-*b*-D_{212}, respectively.

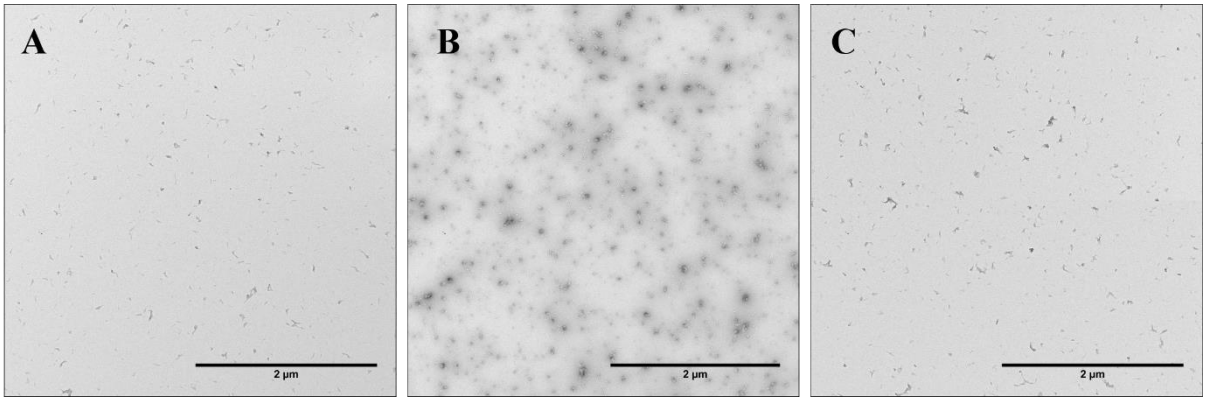

Figure S3. Representative TEM images obtained for the 3 triblock copolymers when complexed with dsRNA (A) Q_{100}-b-B_{17}-b-D_{212}, (B) Q_{100}-b-B_{25}-b-D_{55} and (C) Q_{100}-b-B_{44}-b-D_{99}. Solutions were formulated at 1 g L^{-1}, with 5 µL deposited onto 400-mesh carbon-coated copper grids. Grids were then washed with Milli-Q water and stained with 1% uranyl acetate.

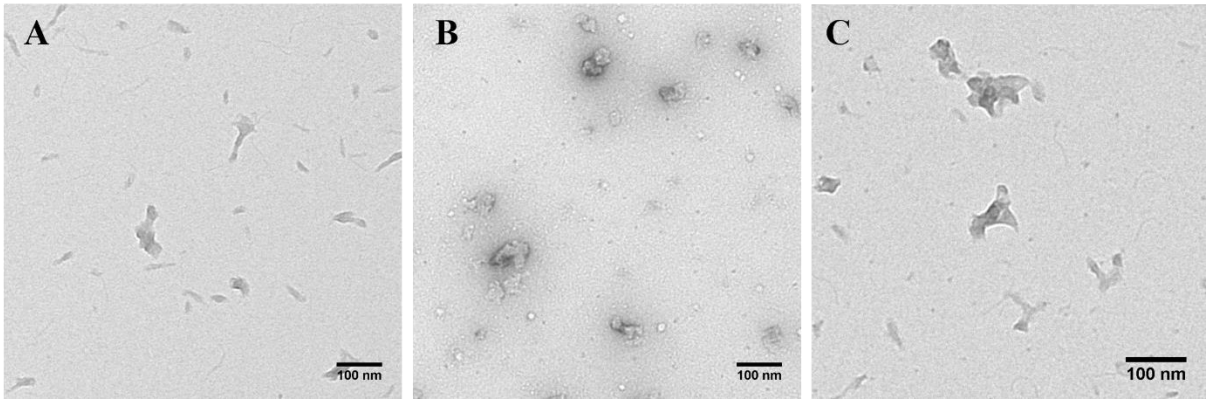

Figure S4. Representative TEM images (at higher magnification) obtained for the 3 triblock copolymers when complexed with dsRNA (A) Q_{100}-b-B_{17}-b-D_{212}, (B) Q_{100}-b-B_{25}-b-D_{55} and (C) Q_{100}-b-B_{44}-b-D_{99}. Solutions were formulated at 1 g L^{-1}, with 5 µL deposited onto 400-mesh carbon-coated copper grids. Grids were then washed with Milli-Q water and stained with 1% uranyl acetate.

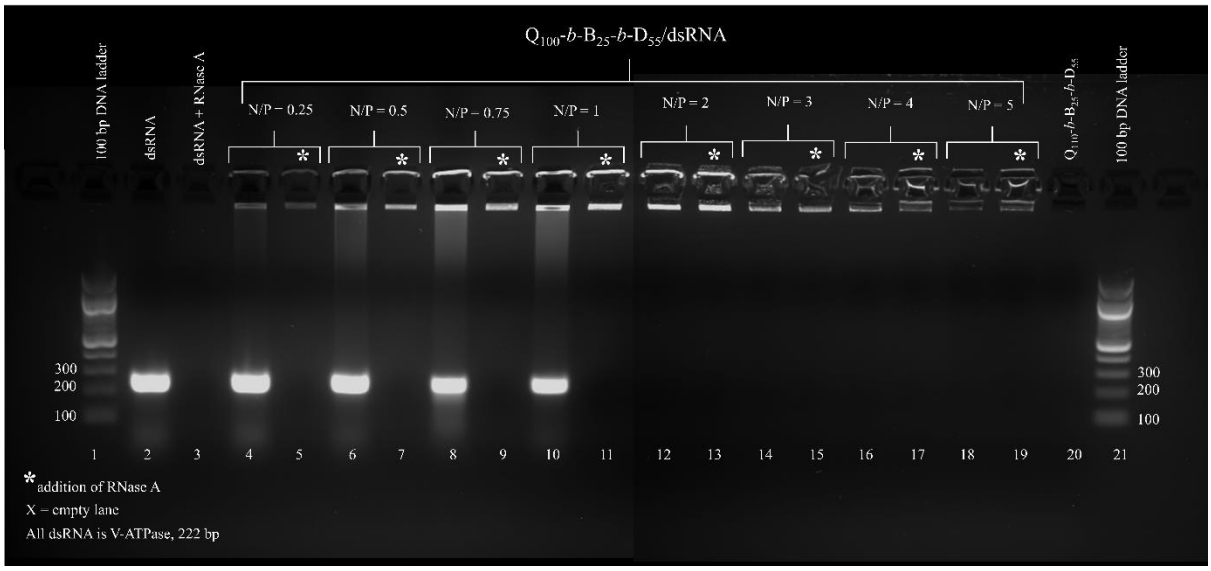

Figure S5. Q_{100}-*b*-B_{25}-*b*-D_{55}/dsRNA agarose gel, varying N/P ratio from 0.25 – 5. For comparison, dsRNA has been run, as well as a 100 bp DNA ladder. * = addition of RNase A.

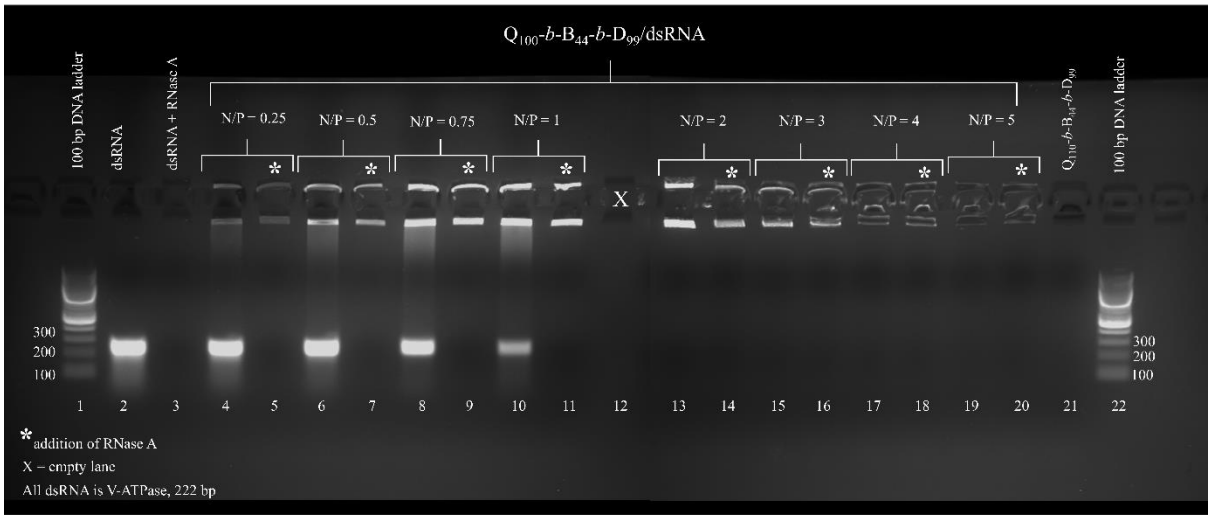

Figure S6. Q_{100}-*b*-B_{44}-*b*-D_{99}/dsRNA agarose gel, varying N/P ratio from 0.25 – 5. For comparison, dsRNA has been run, as well as a 100 bp DNA ladder. * = addition of RNase A.

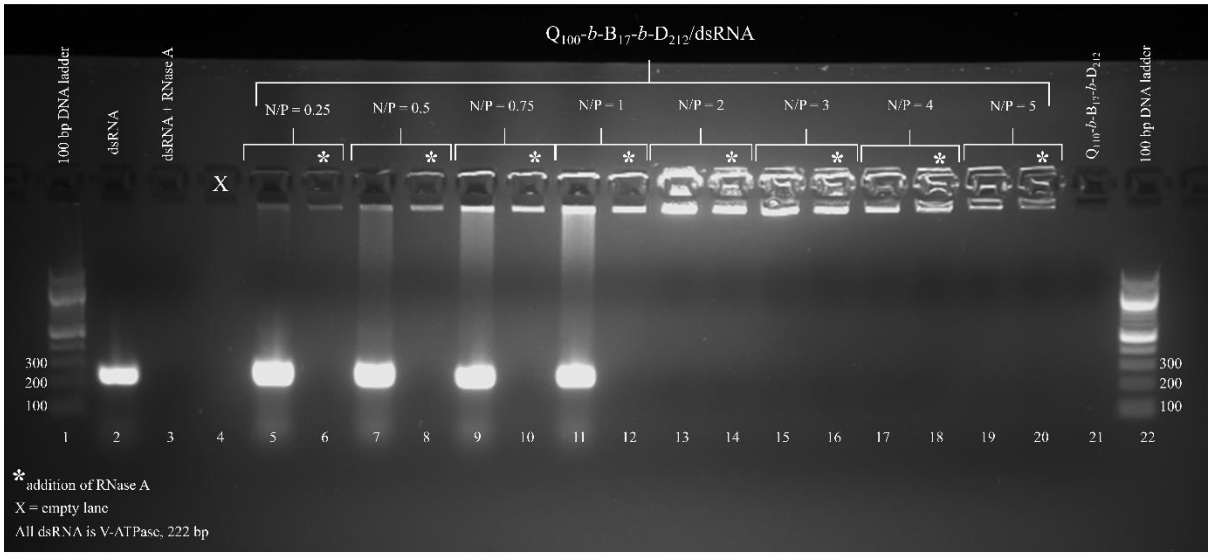

Figure S7. Q_{100}-*b*-B_{17}-*b*-D_{212}/dsRNA agarose gel, varying N/P ratio from 0.25 – 5. For comparison, dsRNA has been run, as well as a 100 bp DNA ladder. * = addition of RNase A.