Supporting Information

Characterizing Single Chain Nanoparticles (SCNPs): A Critical Survey

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Table S1. Molecular weight and diameter of the SCNPs

Polymer	M_n (g/mol)	$Đ_M$	D (nm)	Technique	References
P1	14000[a]	1.19	3.1	DLS	[1]
P2	14400[a]	1.24	4.5		
P3	14000[a]	1.30	5.7		
P4	12300	1.16	5.4	DLS	[2]
P5	15700	1.19	7.0	DLS	[3]
P6	16500	1.33	4.5		
P7	20200	1.56	1.7		
P8	19200	1.28	3.0		
P9	30600	1.10	3.4	DLS	[4]
			2.5	DOSY	
P10	64800	1.20	6	DLS	
			7.1	DOSY	
P11	64800	1.20	7.9	DLS	
			8.7	DOSY	
P12	14900	2.00	3.8	DLS	[5]
			3.3	DOSY	
P13	15400	1.11	5.9	DLS	[6]
P14	20000	1.50	2.3	DLS	[7]
P15	12000	1.20	1.0		
P16	15400	1.12	8.0	DLS	[8]
P17	9300	1.24	4.4	DLS	[9]
P18	9100	1.23	3.2		
P19	24900	1.12	10.0	DLS	[10]
P20	67900	1.43	23.6		
P21	48700	1.84	19.8		
P22	23600	1.17	8.8		
P22	28700	1.17	11.4		
P24	57000	1.26	12.6		
P20	67900	1.43	23.6		
P21	48700	1.84	19.8		
P22	23600	1.17	8.8		
P23	28700	1.17	11.4		
P24	57000	1.26	12.6		
P25	27900	1.97	13.2	DLS	[11]
P26	24900	1.67	11.3		
P27	24200	1.86	10.2		
P28	46100	2.45	15.7		
P29	46000	2.87	13.1		
P30	14400	1.13	12	DLS	[12]
P31	26600	1.15	18.7		
P32	48200	1.38	21.4		
P33	24300	1.01	11.7		

Polymer	M_n (g/mol)	$Đ_M$	D (nm)	Technique	References
P34	58800	1.21	10.1	DLS	[13]
P35	42100	1.3	9.4		
P36	66400	1.36	8.7		
P37	76900	1.24	8.5	DLS	[14]
P38	29400	1.05	5.3	DLS	[15]
P39	35800	1.06	5.7		
P40	51000	1.05	6.8		
P41	238000	1.3	14.1		
P42	30000	1.27	17.8	DLS	[16]
P43	30000	1.27	17		
P44	30000	1.27	16.2		
P45	30000	1.27	14.8		
P46	46000	1.15	13.1	DLS	[17]
P47	45000	1.18	11.3		
P48	41100	1.16	10.5		
P49	49600	1.02	18.8	DLS	[18]
P50	49600	1.02	17.2		
P51	49600	1.02	15.8		
P52	44000	1.03	19.2	DLS	[18]
P53	44000	1.03	18.2		
P54	44000	1.03	16		
P55	43400	-	5	DLS	[19]
P56	48900	-	4.7		
P57	20800	1.73	8.6	DLS	[20]
P58	31300	1.1	4.2	DLS	[21]
P59	15000	1.19	9.6	DLS	[22]
P60	15000	1.19	9.0		
P61	15000	1.19	8.6		
P62	39100	1.05	6.4	DLS	[23]
P63	182000	1.35	12.5		
P64	127200[a]	1.39	9.8	DLS	[24]
P65	124400[a]	1.54	7.2		
P66	31800	1.29	5.5	DLS	[25]
P67	34200	1.22	6.0		
P68	30600	1.27	6.0		
P69	18100	1.41	16.0	DLS	[26]
P70	25800	1.31	13.2	DLS	[27]
P71	28600	1.37	12.2		
P72	32200	1.33	11.4		
P73	38500	1.46	10.2		
P74	46900	1.33	17.4		

Polymer	M_n **(g/mol)**	$Đ_M$	D **(nm)**	Technique	References
P75	53300	1.38	15.6	DLS	[27]
P76	60400	1.31	14.2		
P77	64600	1.48	13.6		
P78	80200	1.45	23.6		
P79	91300	1.62	21.2		
P80	15200	1.35	8.6	DLS	[28]
P81	9900	1.08	7.6		
P82	22000	1.32	11.0		
P83	32000	1.35	13.0		
P84	29000	1.34	12.4		
P85	32000	1.29	10.8		
P86	88000	1.45	26.2		
P87	108000	1.60	18.4		
P88	27900	1.30	1.2	DLS	[29]
P89	27800	1.30	1.0		
P90	27900	1.20	1.1		
P91	30100	1.30	1.0		
P92	57100	1.10	7.0	DLS	[30]
P93	3000	--	1.0	DLS	[31]
P94	34800	1.08	5.8	DLS	[32]
			4.0	AFM	
P95	34900	1.11	4.0	DLS	
			3.9	AFM	
P96	31600	1.19	3.9	DLS	
			3.7	AFM	
P97	30000	1.20	3.6	DLS	
			2.0	AFM	
P98	59600	2.40	5.0-10.0	DLS	[33]
			5.0-10.0	AFM	
P99	8100	4.80	3.0-7.0	DLS	
			3.0-7.0	AFM	
P100	40600	1.15	8.5	DLS	[34]
			9.8	DOSY	
P101	62000	1.21	7.3	DLS	[35]
			4.3	TEM	
P102	50000	1.08	1.5	AFM	[36]
P103	22400	1.04	7.0	DOSY	[37]
P104	26000	1.20	6.8	SEC (VI)	[38]
P105	24300	1.20	5.8		
P106	24300	1.20	6.4		
P107	17500	1.20	12.6	SEC (VI)	[39]

Polymer	M_n **(g/mol)**	$Đ_M$	D **(nm)**	Tehnique	References
P108	11300	1.20	7.0	SEC (VI)	[39]
P109	34500	1.60	10.0		
P110	16400	1.70	8.2		
P111	32800	1.08	5.8	SEC (VI)	[40]
P112	35600	1.05	6.2		
P113	26300	1.17	6.8	SEC (VI)	[41]
P114	26800	1.14	5.8		
P115	37000	1.16	4.6		
P116	41100	1.22	7.8	SEC (VI)	[42]
P117	105800	1.04	14.0	SEC (VI)	[43]
P118	105800	1.04	14.0		
P119	82100	1.10	13.2		
P120	82100	1.10	12.6		
P121	162000	1.08	16.2		
P122	162000	1.08	16.0		
P123	198100	1.05	16.8		
P124	198100	1.05	16.4		
P125	24500[a]	1.50	7.4	SEC(VI)	[44]
P126	42600[a]	1.60	10.4		
P127	49400	1.19	14.2	SEC (VI)	[45]
P128	50300	1.31	13.2		
P129	64300	1.24	13.6		
P130	73200	1.21	13.8		
P131	70800	1.34	12.6		
P132	25300	1.21	13.0		
P133	27300	1.25	13.2		
P134	26400	1.33	12.8		
P135	25100	1.27	11.4		

[a] M_p

Comparison of the *D* of SCNPs with proteins

To compare the dimension of SCNPs with their natural analogs, a set of data for different proteins[46] reporting R_g values as a function of the number of amino acid was analysed. For calculation of the molar mass of the proteins, an average molar mass of a nucleic acid of 150 g mol^{-1} was assumed. In order to use the hydrodynamic radius R_h in scaling relations, a transformation of R_g in R_h was applied using the relation

$$\rho = R_g / R_h \qquad \text{Equation 1}$$

The ρ-parameter depends on the conformation of the macromolecules and corresponds to 0.778 for solid sphere.[47] Using this relationship, a transformation of the $R_g(M)$ into $D_h(M)$ dependence is performed.

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