

Supporting Information -

Multifunctional polymer coatings for cell microarray applications

Mahaveer D. Kurkuri^a, Chantelle Driever^b, Graham Johnson^c, Gail McFarland^c,

*Helmut Thissen^{*b,d}, Nicolas H. Voelcker^{*a,d}*

^a School of Chemistry, Physics and Earth Sciences, Flinders University, GPO Box 2100, Bedford Park
SA 5042, Australia

^b CSIRO Molecular and Health Technologies, Bayview Avenue, Clayton VIC 3168, Australia

^c CSIRO Molecular and Health Technologies, Riverside Corporate Park, 11 Julius Avenue, North Ryde
NSW 2113, Australia

^d CSIRO Food Futures Flagship, Riverside Corporate Park, 5 Julius Avenue, North Ryde NSW 2113,
Australia

Table S1: XPS elemental compositions (atomic concentration in %) obtained from survey spectra for the coatings used in this study. In addition elemental ratios calculated from these results are shown.

Sample	%C	%O	%N	O/C	N/C
Glass-ALAPP	79.0	8.6	12.4	0.109	0.157
DC1:1	66.4	33.6	0.0	0.506	0.000
G1:1	67.5	32.2	0.3	0.477	0.004
SC1:1	69.0	31.0	0.0	0.449	0.000

Table S2: Quantification of components C1-C4 fitted to XPS C1s high resolution spectra as seen in Figure 3. Shown here are the ratios of the individual components of the overall carbon detected on these surfaces.

Sample	C1/C	C2/C	C3/C	C4/C
Glass-ALAPP	0.688	0.225	0.062	0.025
DC1:1	0.314	0.574	0.000	0.112
G1:1	0.248	0.647	0.003	0.102
SC1:1	0.206	0.722	0.003	0.069

Table S3: HeLa cell attachment after 24 h to various factors printed at concentration ranging from 12.5 to 200 $\mu\text{g/ml}$ relative to the attachment to Coll-I printed at a concentration of 100 $\mu\text{g/ml}$ in percent. Here the mean (\pm *sd*) fluorescence signal intensity data obtained on printed spots are compared to the intensity data obtained from Coll-I at 100 $\mu\text{g/ml}$ and expressed as a percentage cell attachment.

Conc. ($\mu\text{g/ml}$)	Col IV	PAA	Col I	LMN	FBR	PEI	BSA	PNA	CONA	WGA	DBA	PAMAM
12.5	2.58 ± 1.49	3.04 ± 0.91	26.91 ± 2.87	2.62 ± 1.83	2.53 ± 1.74	1.92 ± 2.47	1.06 ± 2.10	0.16 ± 0.29	0.12 ± 0.29	0.02 ± 0.04	0.05 ± 0.11	0.10 ± 0.18
25.0	6.85 ± 1.39	3.35 ± 1.44	57.52 ± 10.66	3.70 ± 1.14	7.15 ± 2.62	34.39 ± 22.23	0.27 ± 0.41	0.73 ± 0.59	0.38 ± 0.35	0.15 ± 0.25	0.43 ± 0.42	0.15 ± 0.34
50.0	22.94 ± 5.35	10.20 ± 2.46	85.41 ± 11.22	16.19 ± 4.12	29.12 ± 12.51	63.87 ± 3.32	0.52 ± 0.46	0.90 ± 0.63	0.61 ± 0.86	0.65 ± 1.33	2.56 ± 2.39	0.14 ± 0.11
100.0	50.57 ± 7.98	7.24 ± 2.81	100.00 ± 14.69	41.97 ± 12.33	76.62 ± 18.95	86.96 ± 22.35	7.00 ± 1.24	7.69 ± 1.35	10.96 ± 1.84	4.95 ± 1.28	13.11 ± 2.68	33.11 ± 13.75
150.0	84.46 ± 6.86	21.22 ± 3.37	95.25 ± 16.30	42.88 ± 5.17	81.10 ± 26.15	74.92 ± 11.14	4.46 ± 3.19	8.22 ± 7.85	32.89 ± 7.93	1.94 ± 2.38	33.86 ± 2.26	83.72 ± 14.28
200.0	83.98 ± 11.79	33.12 ± 7.10	99.01 ± 13.15	66.86 ± 9.47	88.75 ± 16.85	70.03 ± 5.78	4.57 ± 0.94	8.89 ± 2.48	32.07 ± 4.74	7.85 ± 4.69	7.87 ± 3.01	92.83 ± 9.27