

## Supplementary Information

# Immunotoxicity of nanoparticles: carbon nanostructures can be recognized as pathogens by Toll-like receptors

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**Table S1.** A panel of cytokine expressions for C60 and CNT.

Description	IL-1 $\beta$	IL-2	IL-4	IL-5	IL-6	IL-7	IL-8	IL-10	IL-12 (p70)	IL-13	IL-17	G-CSF	GM-CSF	IFN- $\gamma$	MCP-1	MIP-1 $\beta$	TNF- $\alpha$
C60 200 PI	0.145	0	0	0	0.535	0	84.905	0.01	0.065	0.12	0.16	0	0	0	185.06	0	0.73
C60 20 PI	0.14	0	0	0	0.535	0.09	85.11	0.08	0.175	0.12	0.75	0	0	0	191.34	0	1.245
C60 2 PI	0.15	0	0	0	0.55	0.09	89.69	0.14	0.085	0.1	0.345	0	0	0	193.255	0	0.93
CNT 200 PI	0.14	0	0	0	0.455	0	90.465	0.025	0.135	0.16	0	0	0	0	185.88	0	0.76
CNT 20 PI	0.15	0	0	0	0.485	0	80.115	0	0.02	0.125	0.015	0	0	0	179.82	0	0.665
CNT 2 PI	0.15	0	0	0	0.46	0	85.96	0.005	0.035	0.12	0	0	0	0	192.965	0	0.635
C60 200 NO PI	0.135	0	0	0	0.45	0	77.795	0.005	0.02	0.09	0	0	0	0	188.77	0	0.54
C60 20 NO PI	0.155	0	0	0	0.39	0	76.495	0	0	0.105	0	0	0	0	176.105	0	0.35
C60 2 NO PI	0.225	0	0	0.02	0.5	0	75.695	0.105	0.13	0.27	0	0	0	0	173.875	0	0.6
CNT 200 NO PI	0.14	0	0	0	0.44	0	80.28	0	0.06	0.11	0	0	0	0	191.56	0	0.6
CNT 20 NO PI	0.145	0	0	0	0.365	0	78.9	0	0.005	0.06	0	0	0	0	185.285	0	0.355
CNT 2 NO PI	0.17	0	0	0	0.44	0	68.645	0	0	0.145	0	0	0	0	169.97	0	0.235
NO CELLS	0.24	0	0	0.03	0.395	0	21.43	0.065	0.02	0.275	0	0	0	0	42.25	0	0.32
POS CONT	0.135	0	0	0	0.41	0	59.9	0	0.225	0.23	0	0	8.44	0	119.87	0	0
NEG CONT	0.135	0	0	0	0.415	0	73.565	0	0.055	0.085	0	0	0	0	170.83	0	0.195
VEHICLE CONT	0.205	0	0	0	0.47	0	78.055	0	0.085	0.185	0	0	0	0	194.895	0	0.555
LPS CONT	0.26	0	0	0.03	0.49	0	68.905	0.055	0.125	0.285	0	0	0	0	174.39	0	0.38
C60 200 PI	0.2	0	0	0.07	0.02	0.22	93.915	0.16	0	0	0	0	0	4.84	228.34	0	1.215
C60 20 PI	0.165	0	0	0.07	0.045	0.22	90	0.09	0	0	0	0	0	4.15	230.78	0	1.26
C60 2 PI	0.2	0	0	0.09	0.055	0.15	84.81	0.045	0	0	0	0	0	2.38	206.715	0	0.99
CNT 200 PI	0.195	0	0	0.03	0	0.36	84.775	0.075	0	0	0	0	0	1.655	204.385	0	0.945
CNT 20 PI	0.175	0	0	0.04	0	0	84.7	0	0	0	0	0	0	1.64	214.49	0	1.08
CNT 2 PI	0.17	0	0	0.06	0	0.26	87.33	0.075	0	0	0	0	0	1.655	223.72	0	1.17
C60 200 NO PI	0.165	0	0	0.05	0	0.26	82.525	0	0	0	0	0	0	0.535	203.045	0	0.99
C60 20 NO PI	0.175	0	0	0.07	0	0.15	78.02	0	0	0	0	0	0	0.27	183.36	0	0.715

C60 2 NO PI	0.18	0	0	0.05	0	0	77.56	0	0	0	0	0	0	0.915	189.465	0	0.765
CNT 200 NO PI	0.165	0	0	0.03	0	0.36	71.79	0.025	0	0	0	0	0	0.73	183.995	0	0.81
CNT 20 NO PI	0.185	0	0	0.03	0	0.08	78.185	0	0	0	0	0	0	0.46	196.05	0	0.765
CNT 2 NO PI	0.17	0	0	0.05	0	0.08	76.465	0	0	0	0	0	0	0.73	193.24	0	0.765
NO CELLS	0.16	0	0	0.03	0.03	0.15	41.66	0.025	0	0	0	0	0	0.46	147.3	0	0.44
POS CONT	0.125	0	0	0.06	0	0.26	55.175	0	0	0	0	0	0	0	135.25	0	0.35
NEG CONT	0.17	0	0	0.05	0	0.29	73.75	0	0	0	0	0	0	0.46	196.415	0	0.63
VEHICLE CONT	0.17	0	0	0.02	0	0.08	77.835	0	0	0	0	0	0	1.085	197.575	0	0.72
LPS CONT	0.175	0	0	0.05	0	0.15	73.645	0.045	0	0	0	0	0	0.915	213.97	0	0.99
C60 200 PI	0.21	0	0	0.14	0.38	0.25	109.57	0	0	0.395	0	0	0	2.66	297.805	0	1.45
C60 20 PI	0.185	0	0	0.1	0.295	0.46	112.4	0	0	0.245	0	0	0	3.69	269.17	0	1.525
C60 2 PI	0.17	0	0	0.09	0.26	0.16	102.22	0	0	0.26	0	0	0	1.985	238.5	0	1.375
CNT 200 PI	0.165	0	0	0.12	0.185	0.33	93.265	0	0	0.245	0	0	0	0.675	227.845	0	1.15
CNT 20 PI	0.165	0	0	0.09	0.2	0.25	101.99	0	0	0.265	0	0	0	1.485	244.29	0	1.225
CNT 2 PI	0.18	0	0	0.1	0.305	0.08	111.74	0	0	0.245	0	0	0	2.49	264.81	0	1.3
C60 200 NO PI	0.165	0	0	0.08	0.315	0.04	86.325	0	0	0.25	0	0	0	0.415	219.07	0	1.23
C60 20 NO PI	0.18	0	0	0.1	0.165	0.08	78.955	0	0	0.24	0	0	0	0.74	190.98	0	1.3
C60 2 NO PI	0.155	0	0	0.08	0.14	0.08	78.17	0	0	0.235	0	0	0	1.075	195.955	0	1.15
CNT 200 NO PI	0.165	0	0	0.08	0.12	0.21	73.685	0	0	0.23	0	0	0	0.1	185.455	0	1.08
CNT 20 NO PI	0.15	0	0	0.1	0.135	0.08	78.68	0	0	0.25	0	0	0	0.515	183.15	0	1.115
CNT 2 NO PI	0.155	0	0	0.1	0.205	0.33	87.605	0	0	0.25	0	0	0	2.105	198.975	0	1.23
NO CELLS	0.2	0	0	0.09	0.385	0.07	45.805	0	0	0.225	0	0	0	2	489.835	0	1.6
POS CONT	0.135	0	0	0.09	0.03	0	70.355	0	0	0.255	0	0	0	0	180.035	0	0.79
NEG CONT	0.155	0	0	0.08	0.155	0.16	86.88	0	0	0.22	0	0	0	0.1	226.205	0	1.225
VEHICLE CONT	0.165	0	0	0.1	0.14	0.12	83.895	0	0	0.27	0	0	0	0.2	243.81	0	1.08
LPS CONT	0.17	0	0	0.08	0.135	0.16	92.815	0	0	0.28	0	0	0	1.33	279.16	0	1.01
C60 200 PI	0.31	0	0.2	0.05	0.18	0.3	112.5	0.3	0.18	0.33	0	0	0	0	230.325	0	0.16
C60 20 PI	0.23	0	0	0.04	0.105	0.13	113.08	0.26	0.25	0	0	0	0	0	219.69	0	0.505
C60 2 PI	0.21	0	0	0.02	0.16	0.34	113.58	0.23	0.195	0	0	0	0	0	217.1	0	0.055



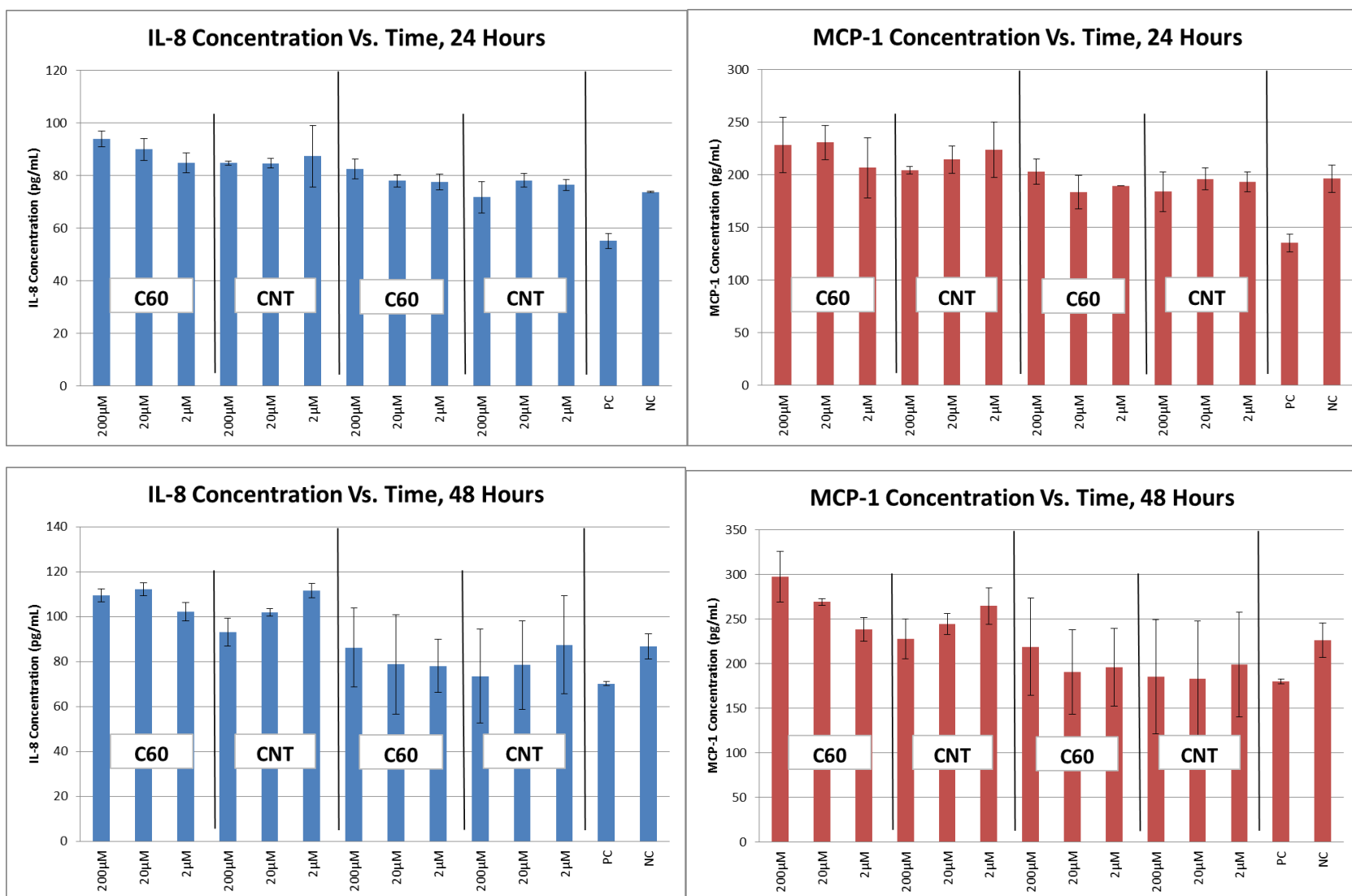


Figure S1. IL-8 and MCP-1 concentration for C<sub>60</sub> and CNTs after 24H, 48H and 72H of exposition.

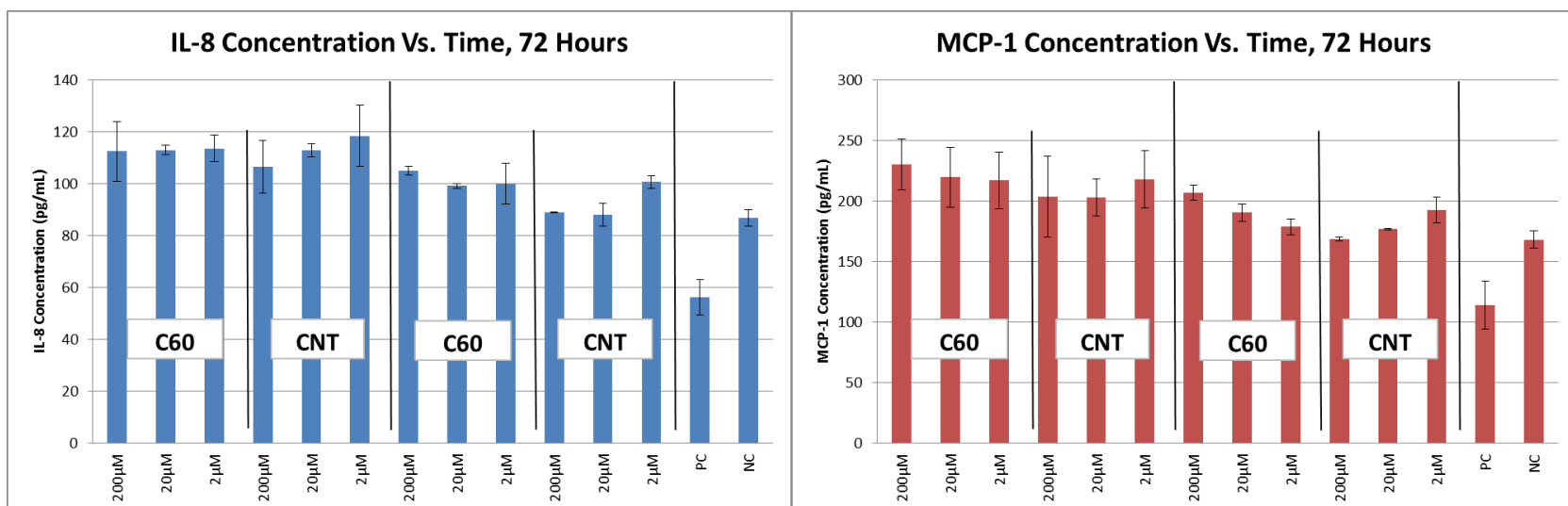


Figure S1. Continuation