Electronic Supplementary Information

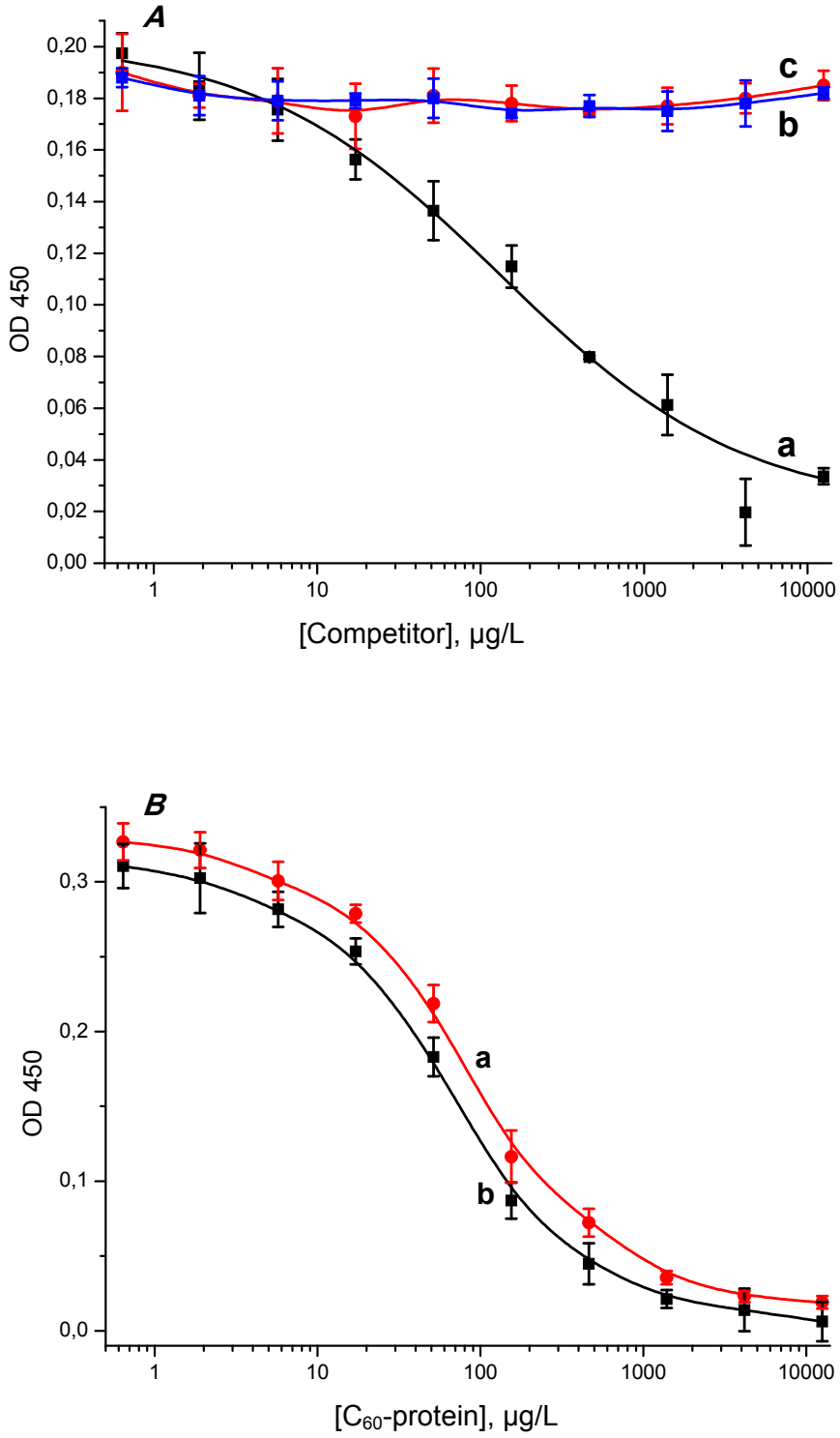

Fig. S-1 A. Competitive ELISA curves for the C_{60}–STI conjugate (a), STI (b) and the 2,4-D–STI conjugate (c) with anti-C_{60} clone H1 and immobilized C_{60}–PTG.

B. Competition curve for the detection of C_{60}–STI (a) and C_{60}–BSA (b) conjugates on immobilized C_{60}-STI with the clone C12. The detection limits (by coupled C_{60}) are equal to 0.5 µg/L for curve (a) and 0.6 µg/L for curve (b).

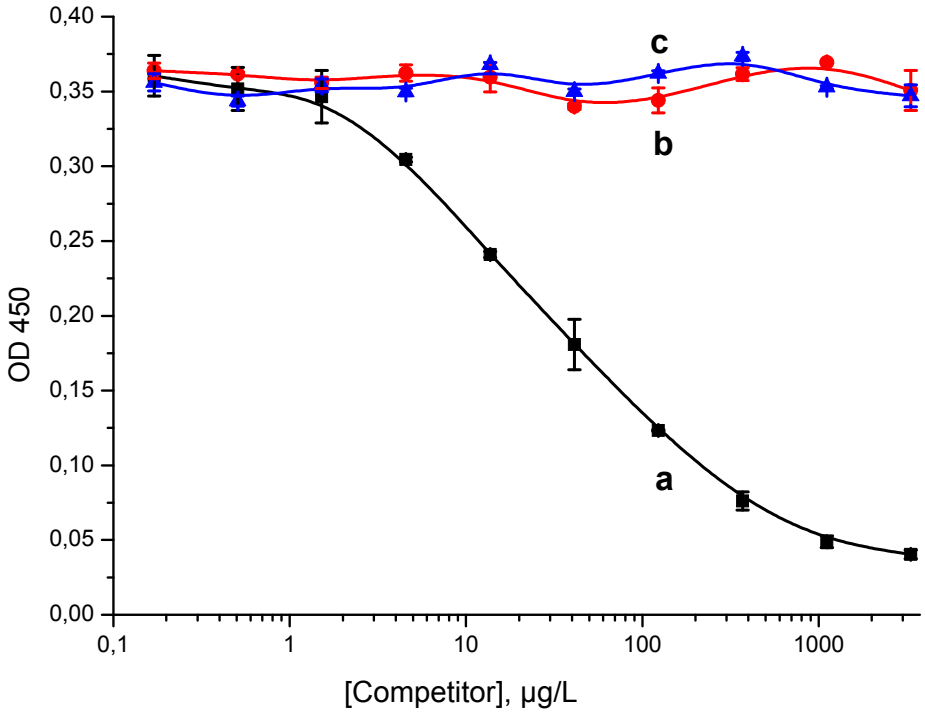

Fig. S-2 Competitive ELISA curves for the fullerene aminocaproic acid (a), carboxylated atrazine (b) and aminocaproic acid (**c**) with the clone B1 and immobilized C_{60}–STI.

To control the influence of DMF on the antibody activity and, consequently, on the results of ELISA, a 1:1 DMF–PBS solution was added to microplate wells in different quantities instead of an antigen solution in the competitive ELISA. As can be seen from Fig. S3, no significant decrease in the specific binding to the immobilized antigen was observed at DMF concentrations up to 12.5%.

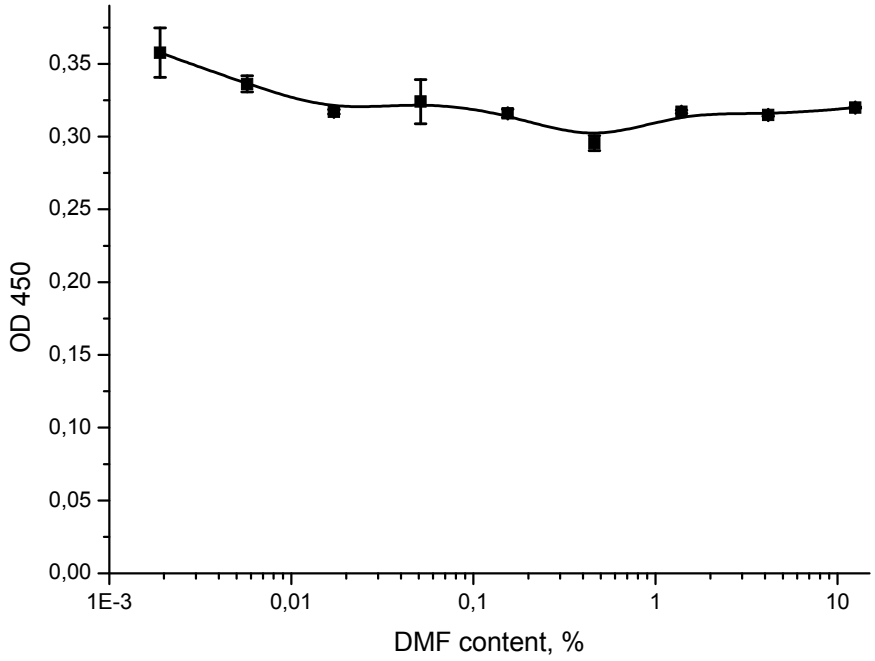

Fig. S-3 Influence of different DMF contents in the reaction medium on the binding of antibodies to the immobilized C_{60}-protein conjugate (without a competitor).

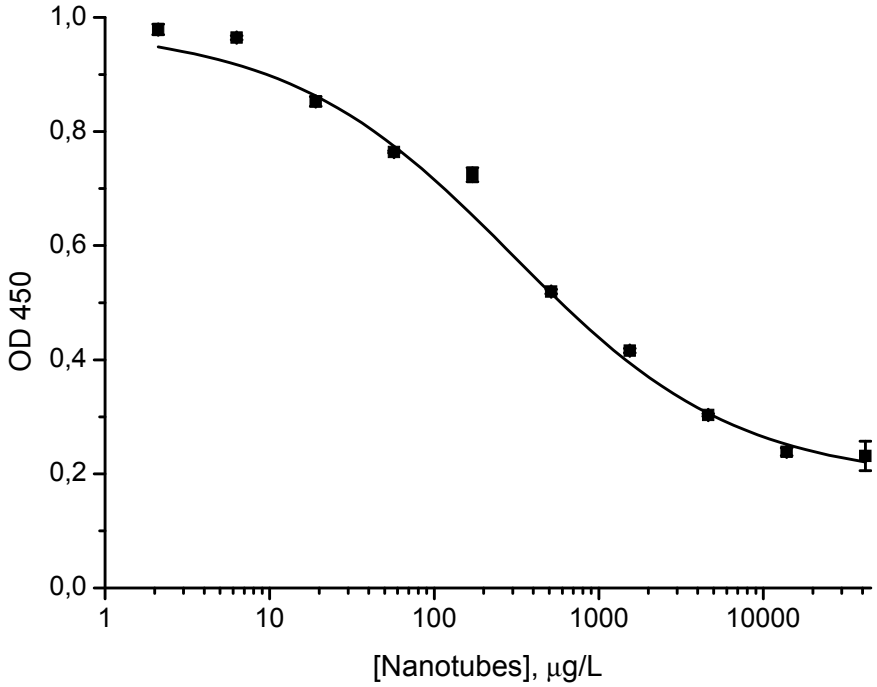

Fig. S-4 Competitive ELISA curve for multi-walled carbon nanotubes with the clone B1 and immobilized C_{60}–STI.

Table S-1 Detection limits (IC_{10}) for the ELISA of C_{60}–protein conjugates

Immobilized antigen	Clone of antibodies	Antigen in solution	Detection limit (by protein), μg/L	Detection limit (by C_{60}), μg/L
C_{60}–PTG	B1	C_{60}–STI	14.8	1.1
C_{60}–PTG	B11	C_{60}–BSA	18.8	1.8
C_{60}–PTG	C12	C_{60}–BSA	12.0	1.2
C_{60}–PTG	C12	C_{60}–STI	13.6	1.0
C_{60}–PTG	F11	C_{60}–STI	13.7	1.0
C_{60}–PTG	G4	C_{60}–BSA	3.4	0.3
C_{60}–PTG	H1	C_{60}–STI	3.0	0.2
C_{60}–PTG	H1	C_{60}–BSA	3.8	0.4
C_{60}–STI	C12	C_{60}–BSA	6.4	0.6
C_{60}–STI	C12	C_{60}–STI	7.6	0.5
C_{60}–STI	F11	C_{60}–BSA	5.1	0.5
C_{60}–STI	H1	C_{60}–BSA	4.4	0.4
C_{60}–BSA	C12	C_{60}–STI	7.3	0.5
C_{60}–BSA	C12	C_{60}–BSA	4.4	0.4

Table S-2 Detection limits (IC_{10}) for the ELISA of fullerene aminocaproic acid

Immobilized antigen	Clone of antibodies	Detection limit, μg/L
C_{60}–STI	B1	0.8
C_{60}–STI	B2	2.1
C_{60}–STI	C12	3.1
C_{60}–STI	D3	7.1
C_{60}–BSA	G4	2.8
C_{60}–BSA	B1	2.7
C_{60}–BSA	C12	3.2
C_{60}–PTG	G4	1.9
C_{60}–PTG	F11	8.2

Table S-3 Detection limits (IC_{10}) for the ELISA of fullerenol

Immobilized antigen	Clone of antibodies	Detection limit, μg/L
C_{60}–STI	H1	1.1
C_{60}–STI	B1	5.6
C_{60}–STI	C12	0.9
C_{60}–PTG	C12	2.5
C_{60}–PTG	F11	1.9
C_{60}–PTG	B1	3.2

Table S-4 Detection limits (IC_{10}) for the ELISA of free fullerene C_{60}

Immobilized antigen	Clone of antibodies	Detection limit, μg/L
C_{60}–STI	H1	2.0
C_{60}–STI	B1	28
C_{60}–STI	C12	40
C_{60}–PTG	B11	51
C_{60}–PTG	F11	300
C_{60}–STI	D3	>1000
C_{60}–STI	G4	>1000
C_{60}–STI	B2	>1000