

Supporting Information

Biocompatibility and Bio-imaging Application of Carbon Nanoparticles Synthesized by Phosphorus Pentoxide Combustion Method

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Fluorescence Image Analysis

Matlab TM script

```
grayImage = imread('D:\shib\results\Confocal\cDOT_platelet\3control.png');  
  
[rows columns numberOfColorBands] = size(grayImage);  
  
subplot(2, 2, 1);  
  
imshow(grayImage);  
  
binaryImage = grayImage > 25;  
  
subplot(2, 2, 3);  
  
numberOfBlackPixels = sum(sum(binaryImage == 0));  
  
totalNumberOfPixels = rows * columns;  
  
percentBlackPixels = 100.0 * numberOfBlackPixels /totalNumberOfPixels
```

Figure S1: Fluorescence quantum efficiency data for the reference dye and the CNPs

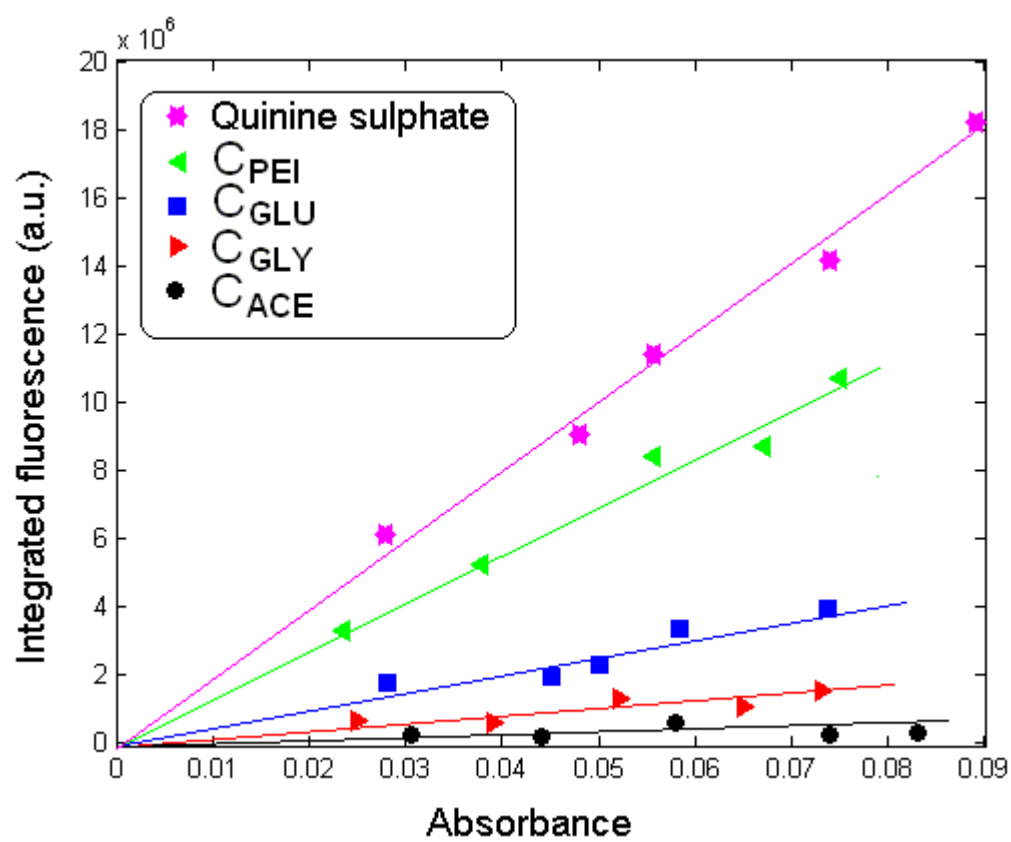


Figure S2: TCSPC data for the measurement of fluorescence lifetime. (IRF = Instrument response function)

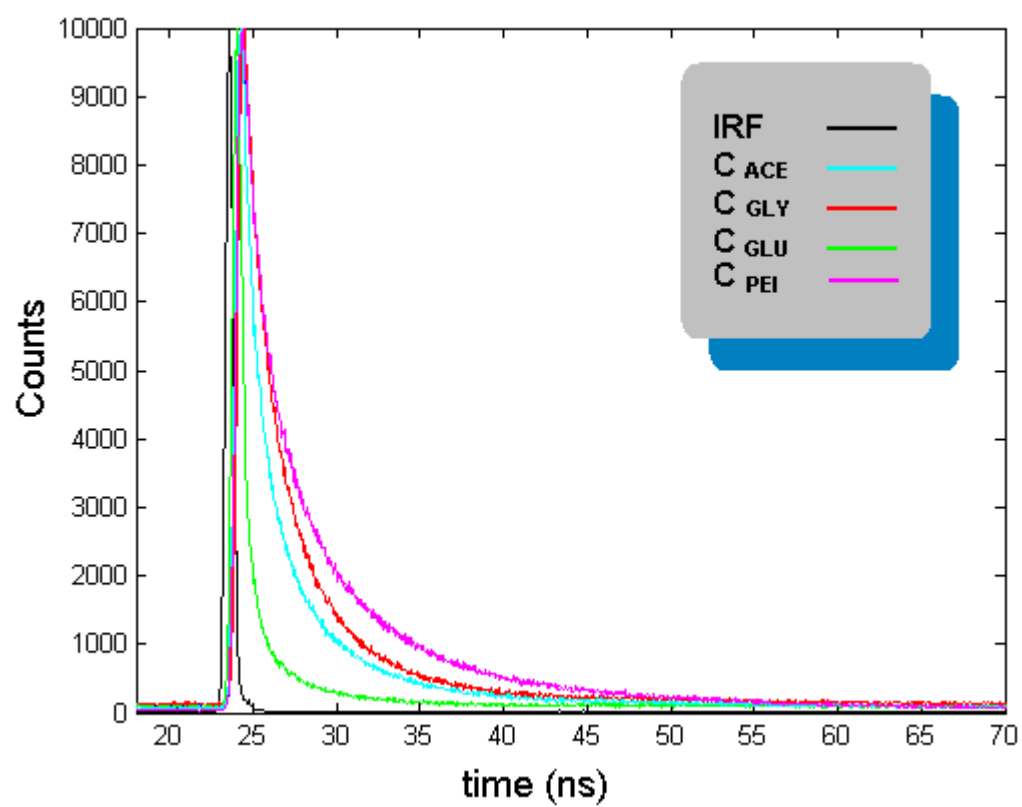


Figure S3: Fluorescence microscopy images for the CNPs showing one set of images for IgG control and three sets for anti-CD41. The calculated fluorescence intensity values in relation to Figure 6 are reported in each micrograph.

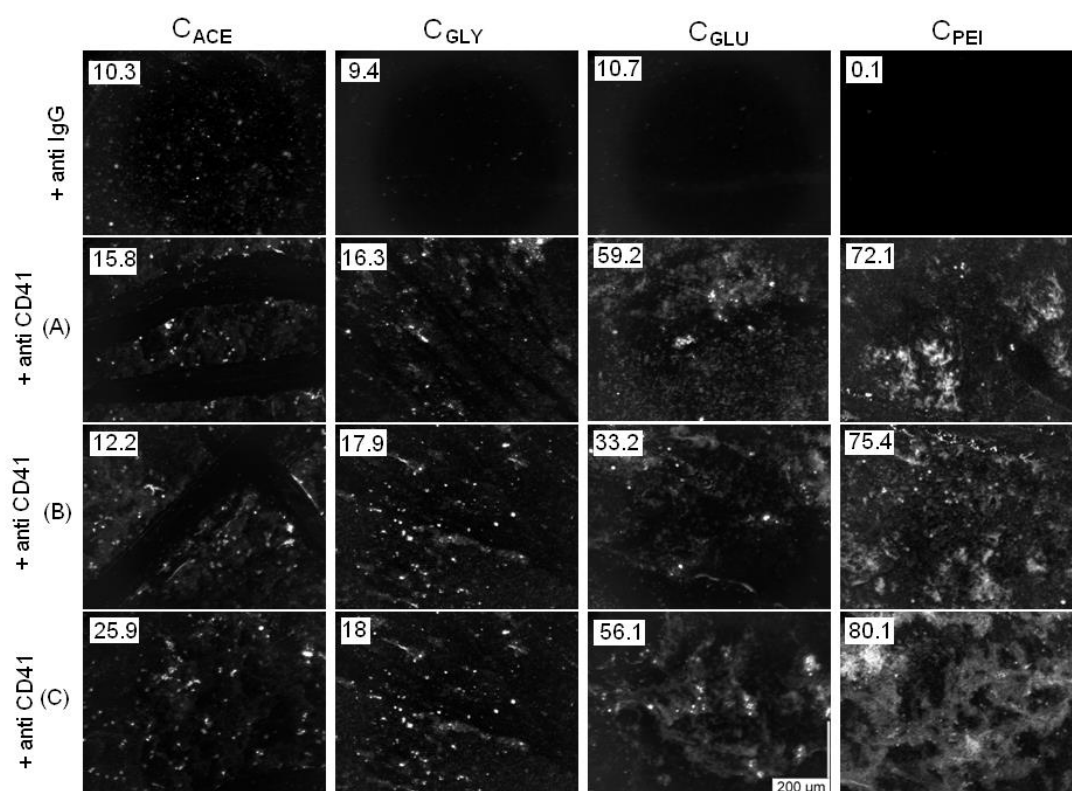


Figure S4: ANOVA analysis for the cell viability of U2OS cell lines in the presence of various concentrations of CNPs.

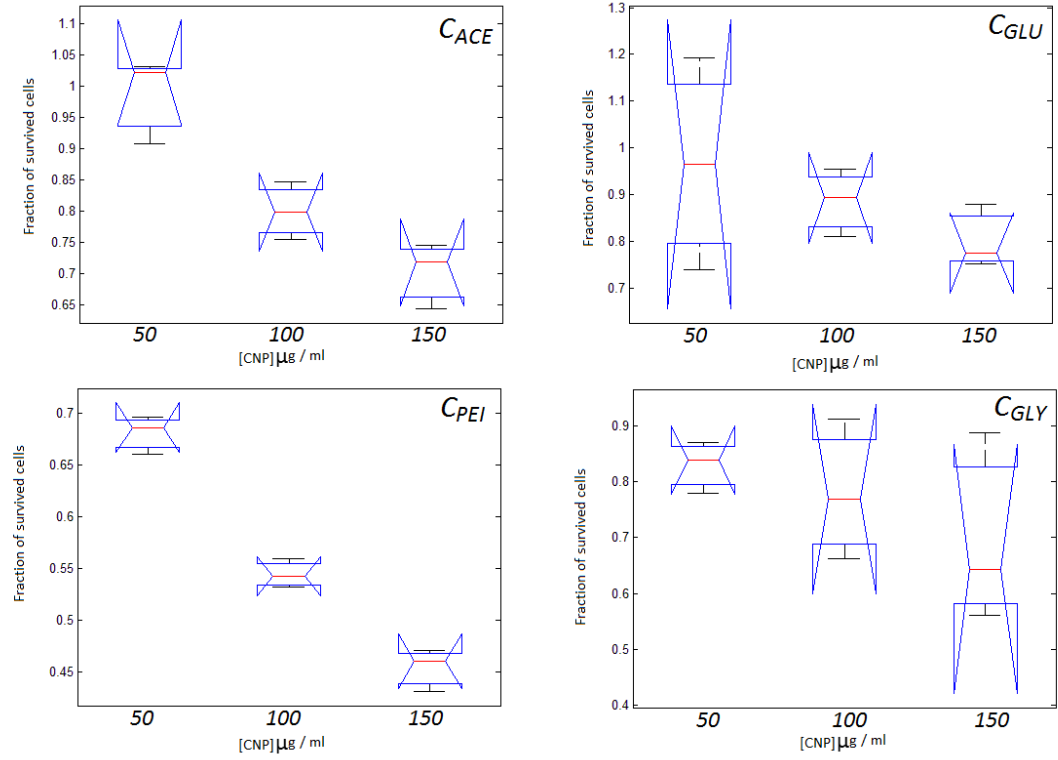


Table S1: ANOVA table for the CNPs

CNP	Parameters	Sum of squares	Degrees of freedom	Mean square	F	Significance
C_{ACE}	Columns	0.12622	2	0.06311	19.63	0.0023
	Error	0.09129	6	0.00322		
	Total	0.14551	8			
C_{GLY}	Columns	0.04015	2	0.02008	0.98	0.4281
	Error	0.12285	6	0.02048		
	Total	0.16301	8			
C_{PEI}	Columns	0.07842	2	0.03921	124.52	1.3019e-005
	Error	0.00189	6	0.00031		
	Total	0.08031	8			
C_{GLU}	Columns	0.0269	2	0.01345	0.87	0.4671
	Error	0.09313	6	0.01552		
	Total	0.12003	8			

Table S2: Mean Zeta potential table at various stages of surface functionalization

Sample	In MilliQ (mV)	In PBS (mV)	+ APTES (mV)	+ anti-CD41 (mV)
C_{ACE}	-20.5	-19.8	-14.6	-20.6
C_{GLY}	-26.2	-24.3	-20.7	-26.9
C_{GLU}	-34.3	-32.2	-27.6	-31.3
C_{PEI}	-31.8	-29.7	-25.3	-33.2