

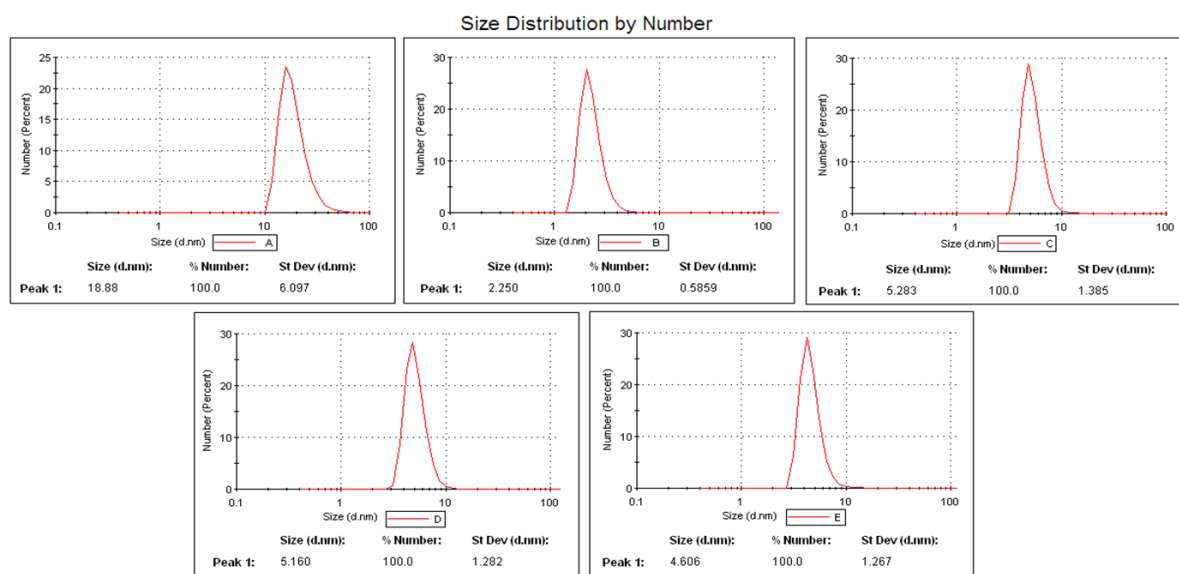


Figure S1. Hydrodynamic sizes of the conjugates determined by dynamic light scattering (DSL) using a 90 Plus particle size analyzer (Malvern, Zetasizer).

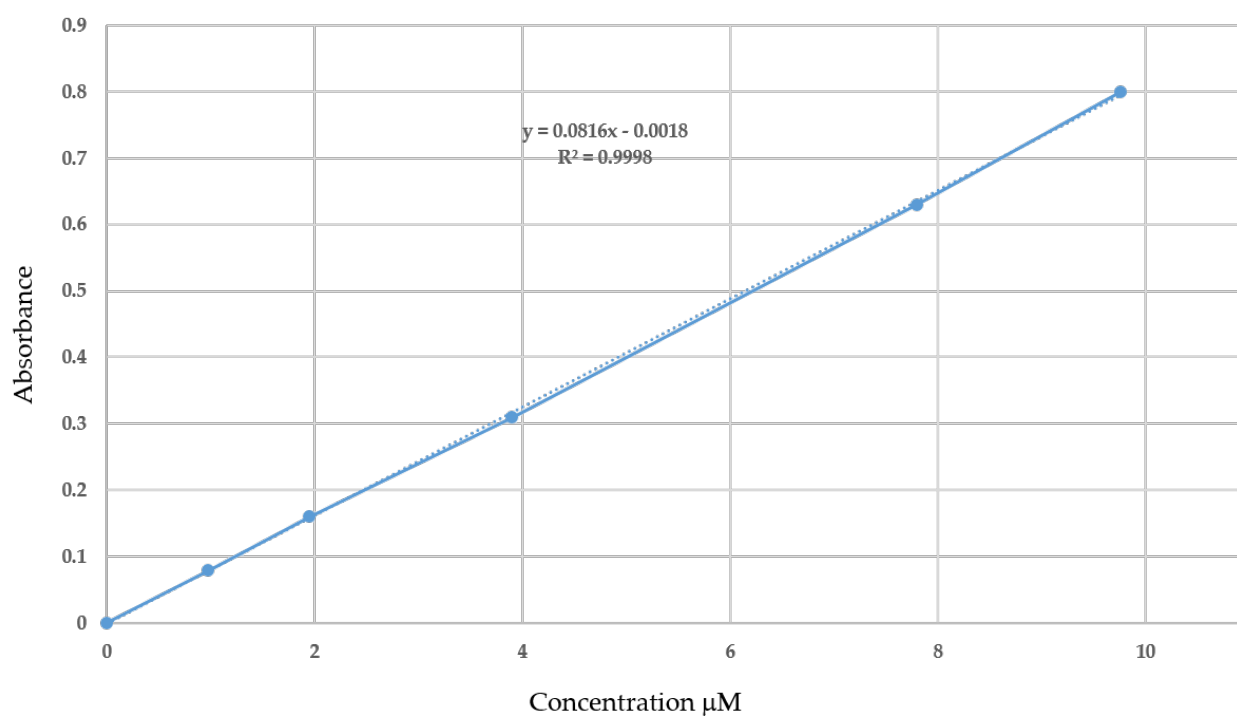


Figure S2. Calibration curve for FITC quantification. Absorbance of solution at different concentration of FITC.

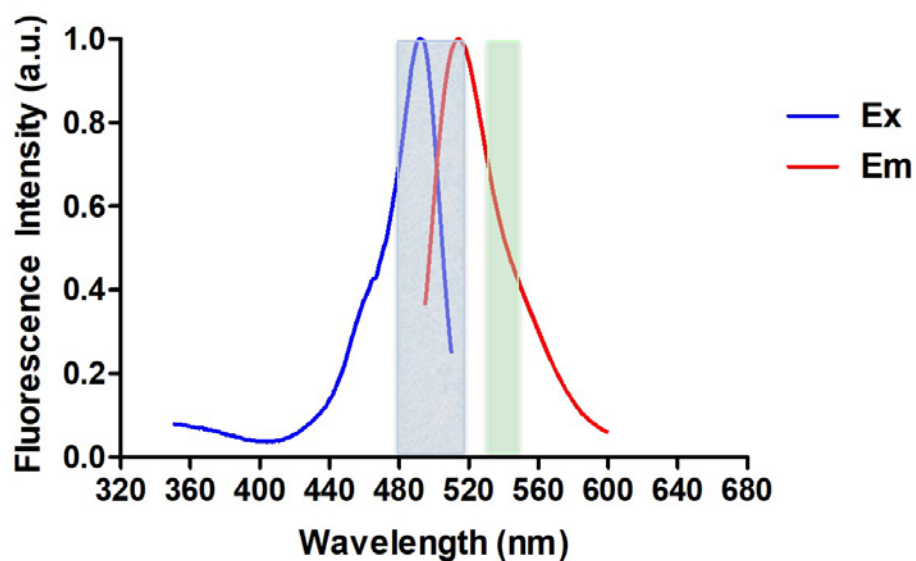


Figure S3. Excitation and emission spectra of PheoBSA-FITC (fluorescein bounded to Pheo-BSA).

Table S1. Summary of prepared melanin-BSA conjugates.

Sample	DA/BSA w/w ratio	Reaction Time (days)	Solubility in water (10mg/ml)
EuBSA 1:2, 1d	1/2	1 day	Dissolved (A)
EuBSA 1:2, 3d	1/2	3 days	Not dissolved
EuBSA 1:2, 4d	1/2	4 days	Not dissolved
EuBSA 2:1, 1d	2/1	1 day	Not dissolved
EuBSA 2:1, 3d	2/1	3 days	Not dissolved
EuBSA 2:1, 4d	2/1	4 days	Not dissolved
PheoBSA 1:2, 1d	1/2 ^{a)}	1 day	Dissolved (B)
PheoBSA 1:2, 3d	1/2 ^{a)}	3 days	Dissolved (C)
PheoBSA 1:2, 4d	1/2 ^{a)}	4 days	Dissolved (D)
PheoBSA 1:1, 1d	1/1 ^{a)}	1 day	Dissolved (E)
PheoBSA 1:1, 3d	1/1 ^{a)}	3 days	Not dissolved
PheoBSA 1:1, 4d	1/1 ^{a)}	4 days	Not dissolved
PheoBSA 2:1, 1d	2/1 ^{a)}	1 day	Not dissolved
PheoBSA 2:1, 3d	2/1 ^{a)}	3 day	Not dissolved
PheoBSA 2:1, 4d	2/1 ^{a)}	4 day	Not dissolved

a) (DA/Cys molar ratio 5/1);