pharmaceutics

Supplementary Materials: Inorganic Nanoparticles Applied for Active Targeted Photodynamic Therapy of Breast Cancer

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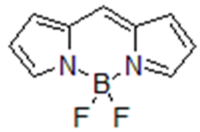
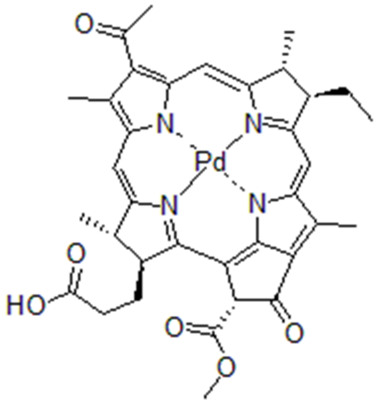
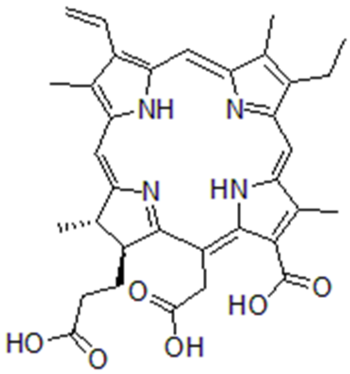
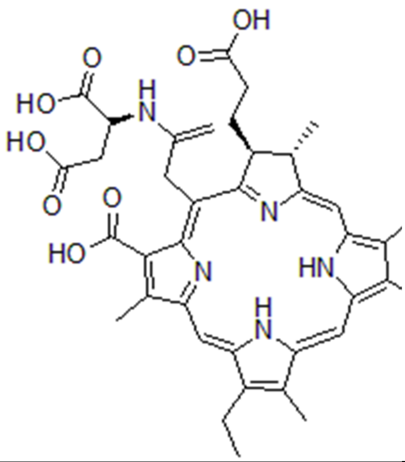
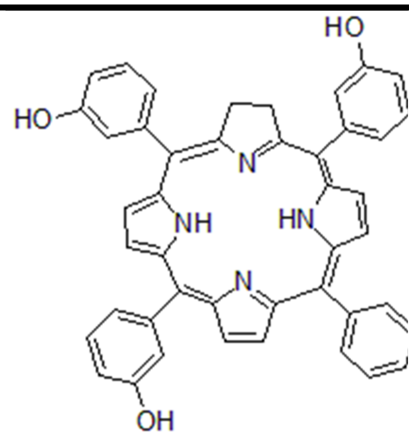
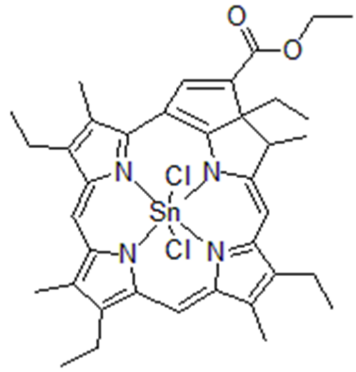
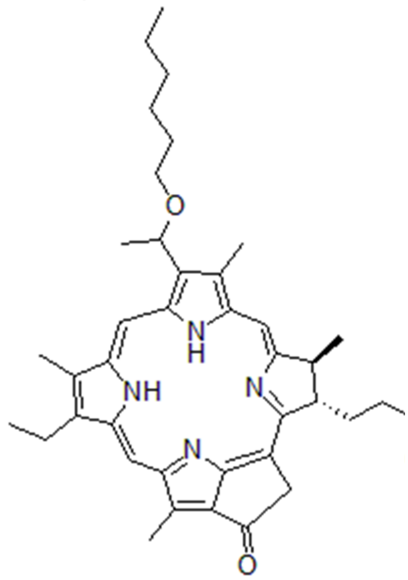
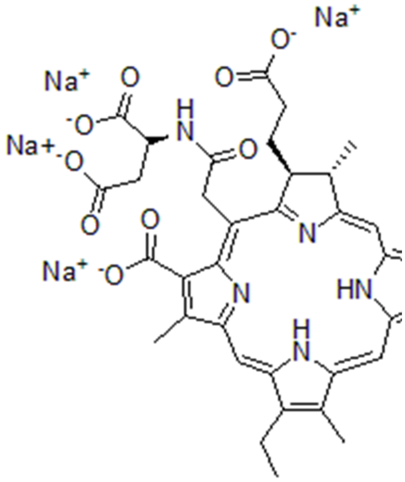
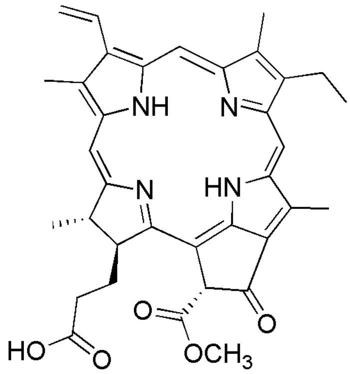
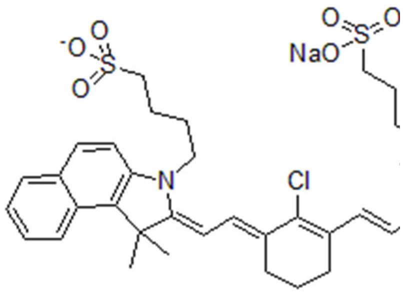
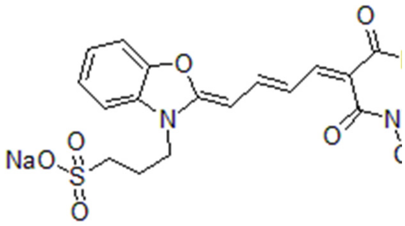
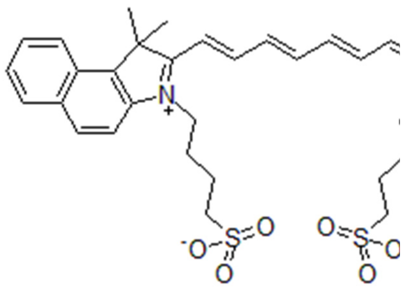
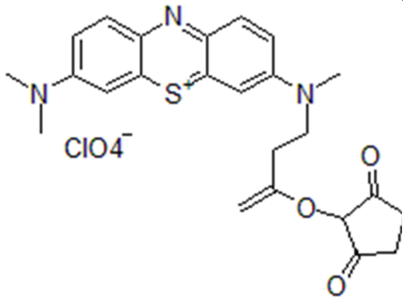
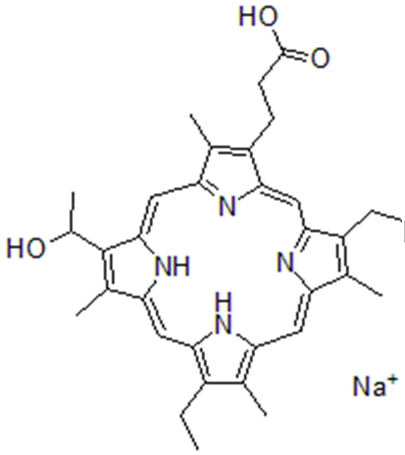
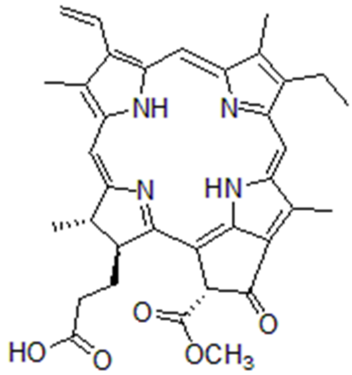
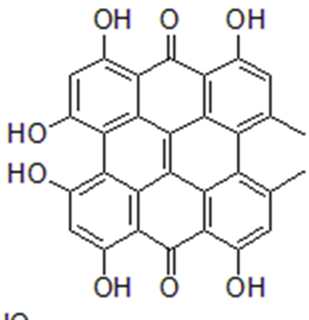
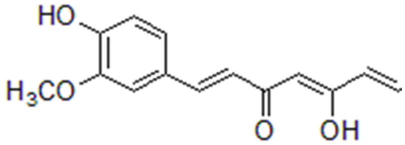
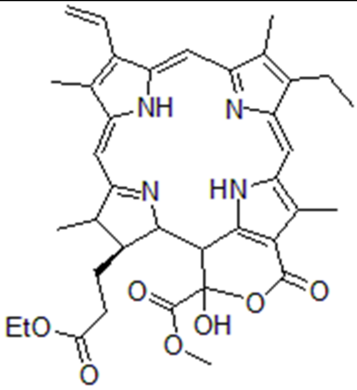
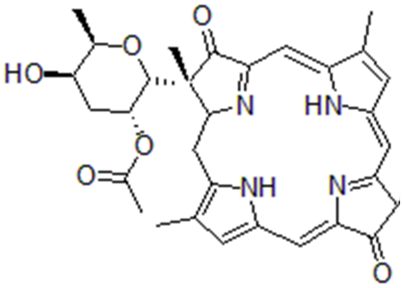
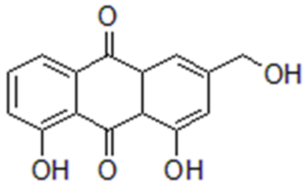
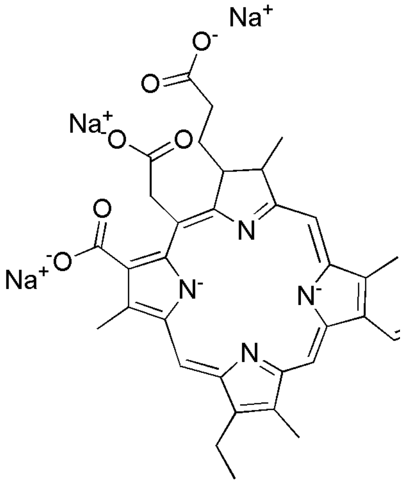
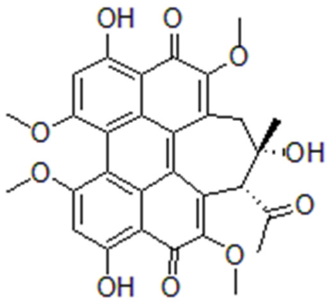
Table S1. Spectroscopic and physicochemical properties of some photosensitizers utilized for PDT of cancer.

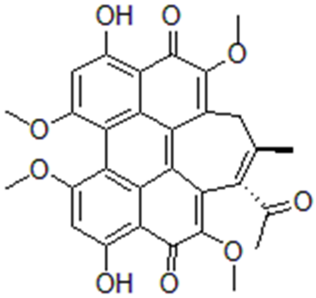
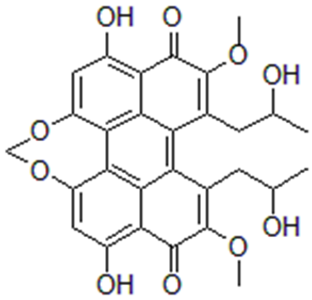
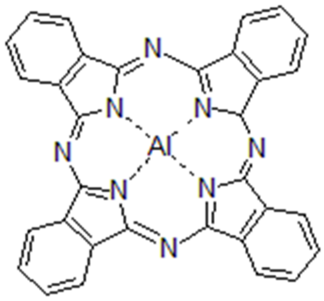
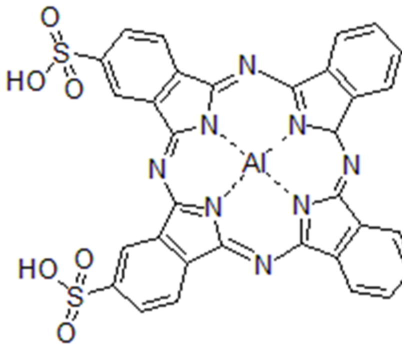
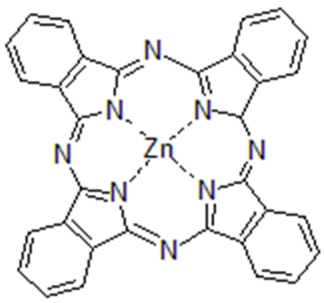
Type of PS	PS	Activation Wavelength (nm)	Solubility	LogP	Molar Extinction Coefficient ($M^{-1}.cm^{-1}$)	Chemical Structure	Reference
BODIPY-type [1]	Boron dipyrromethene derivatives (BODIPY)	494–560	Hydrophilic	2.15–3.66	13,000–110,000		[1–4]
Bacteriophorbide derivatives	Palladium bacteriopheophorbide (TOOKAD)	763	Lipophilic	1.38	88,000		[5,6]
Chlorins	Chlorin e6 (Ce6)	670	Lipophilic	1.68	55,000		[7,8]
	mono-L-aspartyl chlorin e6 (NPe6)	664	Lipophilic	1.47	40,000		[5,9]

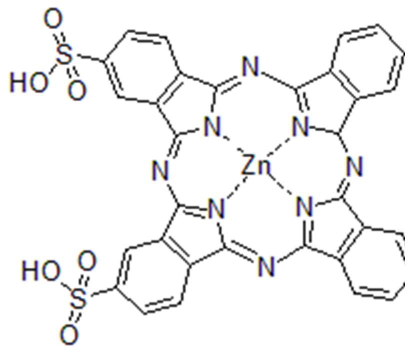
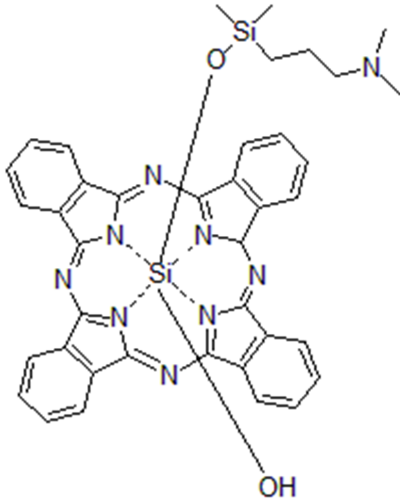
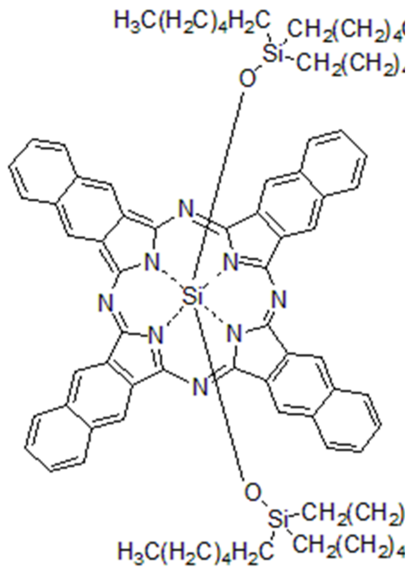
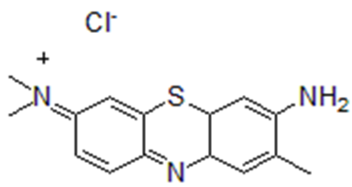
Temoporfin (Foscan®, mTHPC)	652	Lipophilic	7.40	30,000		[10,11]
Purlytin (tin-ethyl-etiopurpurin)	664	Hydrophobic	Not identified	30,000		[5]
(2-[1-hexyloxyethyl]-2-devinyl pyropheophorbide-alpha (HPPH)	665	Hydrophobic	5.7	47,000		[5,12,13]

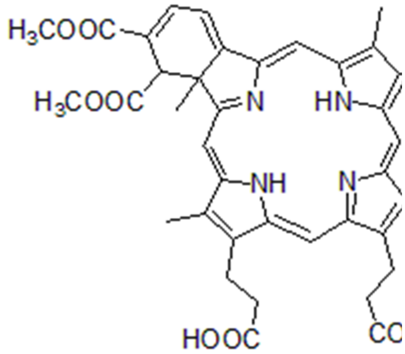
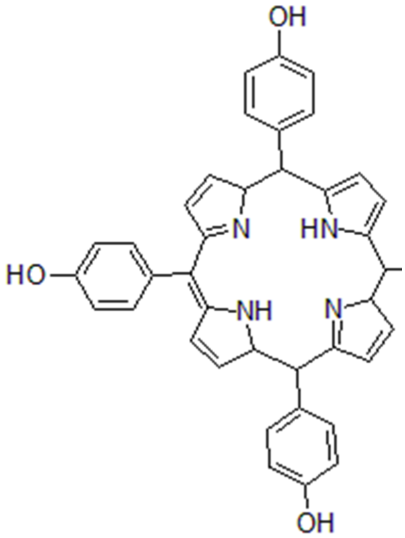
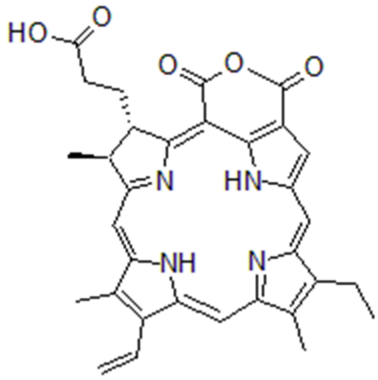
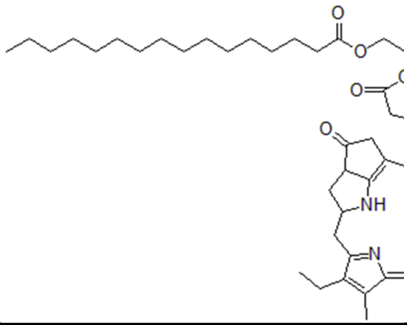
	Talaporfin sodium (LS11)	654	Hydrophilic	2.58	15,800		[14,15]
Chlorophyll derivatives	Pyropheophorbide-a (PPa)	669	Lipophilic	3.20	45,000		[16,17]
	IR-820 dye	819	Hydrophilic	Not identified	147,000		[18]
Cyanines	Merocyanin 540 (MC 540)	556	Lipophilic	3.90	110,000		[5,19]
	Indocyanine green (ICG)	780	Hydrophilic	−0.29	343,000–57,3000		[20]

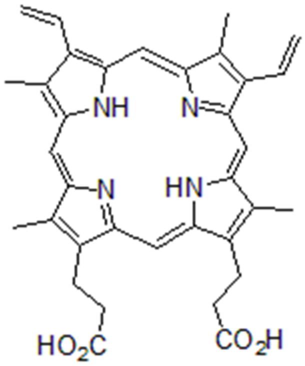
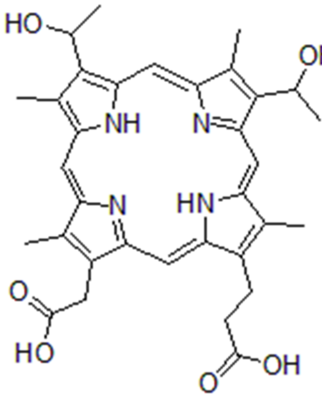
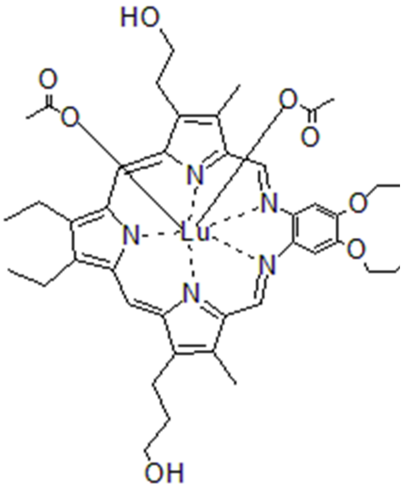
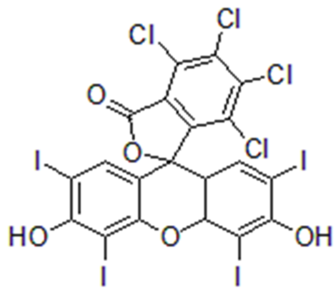
Dye-type	Methylene blue succinimidyl ester (MB-SE)	666	Hydrophilic	−0.785	82,000		[5,9,21]
Hematoporphyrin derivative	Porfimer sodium	630	Lipophilic	3.96	3,000		[5,9,11]
Herbal extracts	Pheophorbide A (PheoA)	667	Hydrophobic	Not identified	44,500		[22]
	Hypericin	590	Lipophilic	0.61	44,000		[5,23]
	Curcumin	428	Hydrophobic	3.0	55,000		[5,24,25]

15(1)-Hydroxypurpurin-7-lactone ethyl methyl diester	668	Lipophilic	Not identified	40,400		[26]
Tolyporphin	676	Hydrophilic	1.3	68,600		[27]
Aloe-emodin	430	Lipophilic	3.29	31,000		[28]
Chlorophyllin	650	Lipophilic	2.17	3,612		[29]
Hypocrellin A	580	Amphiphilic	41.6	12,000		[30,31]

	Hypocrellin B	590	Amphiphilic	46.4	10,700		[30,31]
	Cercosporin	470	Lipophilic	4.92	23,600		[32,33]
	Aluminium phthalocyanine (AlPc)	680	Lipophilic	8.91	126,000		[11,34]
Metalophthalocyanines	Aluminum phthalocyanine tetrasulfonic acid (AlPcS4)	676	Hydrophilic	−0.74	158,000–200,000		[5,11,34]
	Zinc phthalocyanine (ZnPc)	674	Lipophilic	8.50	274,000		[11]

	Zinc phthalocyanine tetrasulfonic acid (ZnPcS4)	690	Amphiphilic	−1.00	295,000		[11]
	Silicon phthalocyanine 4 (Pc4)	675	Lipophilic	Not identified	200,000		[5]
Naphthalocyanines	Silicon(IV) 2,3-naphthalocyanine bis(trihexylsilyloxide)	774	NA	Not identified	570,000		[35]
Phenothiazines	Toluidine blue	631	Lipophilic	0.31	51,000		[5,36,37]

Porphyrins	Benzoporphyrin derivative monoacid (BPD)	690	Lipophilic	2.1	13,500		[38,39]
	5,10,15,20-tetrakis(4-hydroxyphenyl)-21H,23H-porphyrin (mTHPP)	420	Hydrophobic	Not identified	285,000		[40]
	Purpurin-18	699	Lipophilic	5.9	83,200 at 413 nm		[41,42]
	Pyrolipid	665	Amphiphilic	Not identified	45,000		[43]

	Protoporphyrin IX (PpIX)	635	Hydrophilic	−1.89	275,000		[44]
	hematoporphyrin derivative (HpD)	630	Lipophilic	3.25	3,000		[11]
	Motexafin lutetium (Lu-Tex)	732	Hydrophilic	Not identified	42,000		[5,45]
Xanthenes	Rose Bengal (RB)	549	Hydrophilic	3.46	100,000		[5,9]

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