

Redox-responsive inorganic fluorescent nanoprobe for serodiagnosis and bioimaging

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Abbreviation

Ex.: Excitation wavelength

Em.: Emission wavelength

LOD: Limit of detection

FRET: Fluorescence resonance energy transfer

N.P.: Not provided

HT: Hole transfer

ET: Electron transfer

OIQ: Oxidation-induced quenching

ACQ: Aggregation-caused quenching

DS: Dye-sensitizing

TG: Time-gated

IFE: Inner filter effect

GOx: Glucose oxidase

HRP: Horseradish peroxidase

RIR: Reduction-induced recovery

Table S1 ·OH-responsive inorganic fluorescent nanoprobe

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
NaYF ₄ :Yb,Er ¹	carminic acid	980	510, 570	2.1×10 ²	0 – 1.0×10 ⁶	FRET	-	-
NaYF ₄ @NaYF ₄ :Yb,Tm@NaYF ₄ ²	mOG dye	980	478	1.2×10 ⁻⁶	1.2×10 ⁻⁶ – 1.9×10 ⁻⁴	FRET	cell, slice	hepatitis
NaLuF ₄ :Yb,Er ³	ICG dye	980	540, 654	4.0×10 ⁻³	1.6×10 ⁻² – 2.0×10 ³	FRET	cell	hepatitis
NaLuF ₄ :Yb,Er,Tm ⁴	4-ASA-Fe(II)	980	540, 800	2.0	4.0 – 1.6×10 ³	FRET	cell, mouse	hepatitis
NaYF ₄ @NaYF ₄ :Yb,Tm@NaYF ₄ :Yb,Er@NaYF ₄ ⁵	azo dye	980	545	1.0×10 ⁻⁷	<i>N.P.</i>	FRET	cell, slice	tumor
NaErF ₄ @NaLuF ₄ ⁶	cypate dye	980	654, 1550	<i>N.P.</i>	0 – 5.0×10 ⁵	FRET	mouse	arthritis
NaGdF ₄ :Yb,Er@NaGdF ₄ ⁷	methylene blue	980	654	2.0	5.0 – 50	FRET	cell, slice	hepatitis
CdTe QDs ⁸	citrate acid	365	550	<i>N.P.</i>	1.0×10 ² – 1.0×10 ⁵	HT	cell	-
Mn-doped Si QDs ⁹	-	424	515	88	8.0×10 ² – 5.0×10 ⁴	ET	cell	inflammation
S QDs ¹⁰	-	330	440	2.3×10 ²	5.0×10 ² – 2.0×10 ⁴	OIQ	cell	-
Au NCs ¹¹	HPF	488	515, 632	6.8×10 ²	1.0×10 ³ – 1.5×10 ⁵	ACQ	cell	inflammation
Ag NCs ¹²	lysozyme	365	450, 640	2.0×10 ²	8.0×10 ² – 2.0×10 ⁵	ACQ	cell	-
Ag NCs ¹³	oligonucleotide	440, 560	540, 635	58	2.0×10 ² – 8.0×10 ⁴	ACQ	cell	inflammation
AuAg NCs ¹⁴	GSH and lysozyme	365	440, 640	50	2.0×10 ² – 5.0×10 ⁵	ACQ	cell	-

Table S2 ClO⁻-responsive inorganic fluorescent nanoprobe

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
NaYF ₄ :Yb,Er,Tm ¹⁵	RBH-1 dye	980	541, 800	3.2×10 ²	0 – 1.2×10 ⁵	FRET	cell	-
NaYF ₄ :Yb,Er ¹⁶	Zn(DZ) ₃	980	544, 659	3.0	0 – 20	FRET	cell	-
NaYF ₄ :Yb,Nd,Er@NaYF ₄ :Nd ¹⁷	hCy3 dye	808	540, 655	5.0×10 ²	0 – 8.0×10 ⁴	FRET	cell, mouse	arthritis
NaGdF ₄ :Yb,Tm ¹⁸	MoS ₂ nanosheet	980	470	3.8×10 ²	5.0×10 ² – 1.5×10 ⁴	FRET	cell, zebrafish	-
NaGdF ₄ :Yb,Er@NaGdF ₄ :Yb ¹⁹	IR808 dye	808, 980	541	16	0 – 3.2×10 ³	DS	cell	-
NaYF ₄ :Er@NaYF ₄ ²⁰	Cy7.5 dye	808, 980	1550	5.0×10 ²	0 – 2.0×10 ⁴	DS	mouse	inflammation
NaYF ₄ :Nd ²¹	Cy860 dye	808	893	<i>N.P.</i>	<i>N.P.</i>	TG	mouse	arthritis
NaYF ₄ :Yb,Tm ²²	Ru-DNPH	980	475, 800	1.4×10 ²	0 – 2.0×10 ⁴	FRET	cell, mouse	inflammation
NaYF ₄ :Yb,Nd,Er@NaYF ₄ :Nd ²³	Cy787 dye	808, 980	540	3.6	0 – 6.0×10 ³	DS	mouse	arthritis
NaGdF ₄ :Yb,Er@NaGdF ₄ :Yb ²⁴	IR845 dye	830, 980	654	41	0 – 6.9×10 ⁴	DS	cell	-
NaGdF ₄ :Yb,Er ²⁵	phycocyanin	980	540, 652	67	1.0×10 ² – 5.0×10 ³	FRET	cell, mouse	hepatitis
NaYbF ₄ :Gd@NaYF ₄ :Yb,Tm ²⁶	Cy-HOCl dye	980	800	9.0×10 ²	4.0×10 ³ – 2.5×10 ⁴	FRET	cell, mouse	inflammation
NaGdF ₄ :Yb,Er@NaGdF ₄ :Yb,Nd ²⁷	IR792 dye	808	550	10	40 – 2.0×10 ⁴	DS	-	-
CsLu ₂ F ₇ :Yb,Er ²⁸	IR808 dye	808, 980	541, 668	65	0 – 6.0×10 ³	DS	cell	-
NaErF ₄ @NaYF ₄ ²⁹	IR808 dye	808, 980	1525	4.2×10 ²	0 – 4.1×10 ⁴	DS	mouse	angiogenesis
NaYF ₄ :Yb,Er@NaYF ₄ ³⁰	Phen-Fe(II)	980	540	1.3×10 ³	40 – 6.0×10 ⁵	IFE	-	-
CdSe-ZnS QDs ³¹	-	<i>N.P.</i>	590	2.5×10 ²	<i>N.P.</i>	OIQ	cell	-
Si QDs ³²	-	345	440	10	10 – 7.5×10 ³	ET	-	-
ZnO QDs ³³	-	320	525	41	50 – 7.0×10 ²	OIQ	-	-
MoS ₂ QDs ³⁴	-	315	412	5.0×10 ²	5.0×10 ³ – 5.0×10 ⁵	OIQ	-	-
Si QDs ³⁵	Ag nanoparticle	430	520	80	1.0×10 ² – 1.0×10 ⁵	FRET	-	-
CdSe-ZnS QDs ³⁶	DTPABDA	450	560	0.2	4.0 – 1.5×10 ²	FRET	-	-
Ti ₃ C ₂ QDs ³⁷	curcumin	330	430, 540	5.0×10 ³	2.5×10 ⁴ – 1.5×10 ⁵	FRET	-	-
WSe ₂ QDs ³⁸	-	380	500	1.1	50 – 2.5×10 ³	OIQ	cell	-
MoS ₂ QDs ³⁹	TMB	300	380	37	1.0×10 ³ – 2.0×10 ⁴	IFE	-	-
S-Si QDs ⁴⁰	-	383	492	13	50 – 1.8×10 ³	OIQ	cell, zebrafish	-
Ag NCs ⁴¹	-	340	485, 625	<i>N.P.</i>	<i>N.P.</i>	OIQ	-	-
Cu NCs ⁴²	-	350	430	1.0×10 ²	1.0×10 ³ – 3.0×10 ⁴	OIQ	-	-
Au NCs ⁴³	-	365	630	5.0×10 ²	8.0×10 ² – 8.0×10 ⁵	OIQ	-	-
AuAg NCs ⁴⁴	-	360	610	80	7.0×10 ² – 1.5×10 ⁴	OIQ	-	-
AuAg NCs ⁴⁵	-	368	635	80	1.0×10 ² – 1.0×10 ⁵	ACQ	cell	-
Au NCs ⁴⁶	-	400	650	1.4×10 ³	5.0×10 ³ – 3.5×10 ⁴	OIQ	cell	-
Cu NCs ⁴⁷	curcumin	340	438, 535	2.4×10 ³	0 – 4.1×10 ⁵	IFE	-	-

Table S3 H₂O₂-responsive inorganic fluorescent nanoprobe

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
NaYF ₄ :Yb,Er,Tm ⁴⁸	CYD1 dye	980	654, 800	1.7×10 ²	0 – 6.0×10 ⁴	FRET	cell, mouse, zebrafish	inflammation
NaYF ₄ :Yb,Er,Tm ⁴⁹	MnO ₂ nanosheet	980	654, 800	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	tumor
NaYF ₄ :Yb,Tm@NaYF ₄ ⁵⁰	MnO ₂ nanosheet	980	470, 800	<i>N.P.</i>	<i>N.P.</i>	FRET	mouse	tumor
NaYF ₄ :Yb,Tm,Nd@NaYF ₄ :Nd ⁵¹	MnO ₂ nanosheet	808	545, 655	<i>N.P.</i>	<i>N.P.</i>	FRET	cell	tumor
NaErF ₄ :Ho@NaYF ₄ ⁵²	IR1061 dye	1530	980, 1180	<i>N.P.</i>	<i>N.P.</i>	FRET	mouse	inflammation
NaGdF ₄ :Yb,Er ⁵³	mesoporous MnO ₂	980	540	<i>N.P.</i>	<i>N.P.</i>	FRET	cell	tumor
NaGdF ₄ :Yb,Er,Tm@NaGdF ₄ :Yb@NaNdF ₄ :Yb ⁵⁴	honeycomb MnO ₂	808	540, 654	<i>N.P.</i>	<i>N.P.</i>	FRET	cell	tumor
NaYF ₄ :Yb,Er@NaYF ₄ :Yb,Nd ⁵⁵	MnO ₂ nanosheet	808	543, 654	<i>N.P.</i>	<i>N.P.</i>	FRET	-	-
NaYF ₄ :Yb,Er,Nd@NaYF ₄ :Nd ⁵⁶	DCM–H ₂ O ₂ dye	808	540, 660	1.7×10 ²	0 – 1.0×10 ⁴	FRET	cell, mouse	tumor
NaYF ₄ :Yb,Er,Tm ⁵⁷	BCH dye	980	650, 800	4.4×10 ³	0 – 8.0×10 ⁴	FRET	cell, mouse	hepatitis
NaYF ₄ :Yb,Tm ⁵⁸	Eu(TTA) ₃ Phen	980	475	<i>N.P.</i>	3.0×10 ⁴ – 1.5×10 ⁵	FRET	-	-
NaYF ₄ :Yb,Er ⁵⁹	NiS _x	980	540, 660	90	1.8×10 ² – 1.0×10 ⁴	FRET	cell, mouse	tumor
NaYbF ₄ :Er@CaF ₂ ⁶⁰	thioketal-modified Au nanoparticle	980	550, 660	<i>N.P.</i>	1.0×10 ⁴ – 5.0×10 ⁴	FRET	cell, tissue section	inflammation
NaGdF ₄ :Yb,Er@NaGdF ₄ :Yb ⁶¹	FeMn-LDH	980	<i>N.P.</i>	<i>N.P.</i>	<i>N.P.</i>	FRET	mouse	tumor
NaYF ₄ :Yb,Er ⁶²	MoO _{3-x} nanosheet	980	658	6.3×10 ²	0 – 2.0×10 ⁵	IFE	-	-
CdTe QDs ⁶³	-	365	520	1.0×10 ²	5.0×10 ³ – 1.0×10 ⁶	FRET	-	-
CdTe QDs ⁶⁴	Au nanoparticle	420	745	2.7×10 ³	5.0×10 ³ – 1.2×10 ⁵	FRET	-	-
CdTe QDs ⁶⁵	Au nanoparticle	520	588	85	1.5×10 ² – 2.2×10 ⁴	IFE	-	-
CdTe-ZnS ⁶⁶	Zn-tetraamino-phthalocyanine	490	590	2.2×10 ³	0 – 1.6×10 ⁴	FRET	-	-
Si QDs ⁶⁷	MnO ₂ nanosheet	405	520	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	tumor
Si QDs ⁶⁸	MnO ₂ nanosheet	365	455	90	1.0×10 ³ – 8.0×10 ⁴	FRET	-	-
SiO ₂ QDs ⁶⁹	Ag nanoparticle	360	455	6.5×10 ³	8.0×10 ³ – 6.0×10 ⁷	FRET	cell	-
Ag ₂ Se QDs ⁷⁰	MnO ₂ nanosheet	808	1300	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	tumor
(BA) ₂ (MA) _{x-1} Pb _x Br _{3x+1} QDs ⁷¹	-	-	-	3.8×10 ⁴	<i>N.P.</i>	OIQ	-	-
MoO _x QDs ⁷²	o-phenylenediamine	330	549	3.2×10 ⁻²	0.1 – 10	FRET	-	-
CdTe QDs ⁷³	MnO ₂ nanoparticle	365	450, 675	2.8×10 ³	5.0×10 ⁴ – 3.3×10 ⁵	FRET	cell	-
Ag NCS ⁷⁴	-	365	455	4.0×10 ²	5.0×10 ² – 1.0×10 ⁵	OIQ	-	-
Ag NCS ⁷⁵	-	580	648	50	0 – 4.0×10 ⁴	OIQ	-	-
Au NCS ⁷⁶	TMB	450	652	32	1.0×10 ³ – 1.0×10 ⁴	FRET	-	-
Au NCS ⁷⁷	MnO ₂ nanosheet	470	448, 660	53	60 – 2.0×10 ³	FRET	-	-

Table S4 H₂O₂-responsive inorganic fluorescent nanoprobes for detection of other biomolecules based on enzymatic reactions

Biomolecules	Core	Recognition group	Enzyme	Imaging	Disease
Glucose	NaYF ₄ :Yb,Tm@NaYF ₄ ⁷⁸	MnO ₂ nanosheet	GOx	-	diabetes
	NaYF ₄ :Yb,Er ⁷⁹	TMB	GOx and HRP	-	diabetes
	NaYF ₄ :Yb,Tm@NaYF ₄ ⁸⁰	Ag nanoparticle	GOx	-	diabetes
	NaYF ₄ :Yb,Tm ⁸¹	squaric acid-iron(III)	GOx	-	diabetes
	NaYF ₄ :Yb,Er ⁸²	dopamine	GOx	-	diabetes
	BaWO ₄ :Yb,Er ⁸³	Au nanoparticle	GOx	-	-
	NaYF ₄ :Yb,Er@NaYF ₄ ⁸⁴	p-phenylenediamine	GOx and HRP	-	diabetes
	CdTe ⁸⁵	-	GOx and Fe ₃ O ₄ nanoparticle	-	diabetes
	CdSe-ZnS ⁸⁶	-	GOx and HRP	-	diabetes
	CdSe-ZnS ⁸⁷	-	GOx	-	diabetes
	CdTe ⁸⁸	-	GOx	-	diabetes
	Cu NCs ⁸⁹	MnO ₂ nanosheet	GOx	-	diabetes
	Au NCs ⁹⁰	-	GOx	-	diabetes
	Alcohol	CdSe-ZnS ⁸⁷	-	alcohol oxidase	-
Uric acid	NaYF ₄ :Yb,Er,Tm ⁹¹	TOPS and 4-AAP	uricase	-	-
	NaYF ₄ :Yb,Er,Mn ⁹²	-	uricase	-	-
L-lactate	NaYF ₄ :Yb,Er ⁹³	Au nanoparticle	lactalase	-	-
	CdTe QDs ⁹⁴	-	lactate dehydrogenase	-	-
Choline	NaYF ₄ :Yb,Tm ⁹⁵	phenylenediamine	choline oxidase	-	-
	CdS-ZnS ⁹⁶	-	choline oxidase	-	tumor
Acetylcholine	NaYF ₄ :Yb,Tm ⁹⁵	phenylenediamine	acetylcholine esterase	-	-
	CdSe-ZnS ⁹⁷	mercaptoundecanoic acid	acetylcholine esterase	-	-
	Au NCs ⁹⁸	MnO ₂ nanosheet	acetylcholinesterase	-	-
Xanthine	NaYF ₄ :Yb,Er ⁹⁹	Try-chy-Au nanoparticle	xanthine oxidase	-	-

Table S5 ONOO⁻-responsive inorganic fluorescent nanoprob

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
NaYF ₄ :Yb,Tm@NaYF ₄ ¹⁰⁰	Cy7 dye	980	650	<i>N.P.</i>	3.5×10 ³ – 1.8×10 ⁴	FRET	mouse	hepatotoxicity
NaYF ₄ :Yb,Er,Tm@NaYF ₄ ¹⁰¹	E-CC dye	980	540, 660	1.5×10 ²	2.0×10 ⁴ – 4.0×10 ⁴	FRET	cell, mouse	hepatotoxicity
NaYF ₄ :Yb,Er,Tm ¹⁰²	P-cy7 dye	980	656, 800	<i>N.P.</i>	0 – 4.0×10 ⁴	FRET	cell, mouse	hepatotoxicity
NaYF ₄ :Yb@NaYF ₄ :Ho ¹⁰³	NB3 dye	980	650	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	hepatotoxicity
NaErF ₄ @NaYF ₄ @NaYF ₄ :Nd@NaYF ₄ ¹⁰⁴	A1094	808	1060, 1550	8.0×10 ²	0 – 6.0×10 ³	FRET	mouse	hepatotoxicity
NaGdF ₄ :Nd@NaGdF ₄ ¹⁰⁵	Cyanine dye	808	1060	1.0×10 ²	0 – 9.0×10 ³	FRET	mouse	hepatotoxicity
Ag ₂ S ¹⁰⁶	A1094	785	1050	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	traumatic brain injury
PbS-Ag ₂ Se ¹⁰⁷	Cy7.5 dye	808	1616	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	ischemic stroke
Ag ₂ S ¹⁰⁸	A1094	785	1050	1.1×10 ²	<i>N.P.</i>	FRET	cell, mouse	acute myeloid leukemia
Ag ₂ Te:Au ¹⁰⁹	SY1100	808	1600	7.5×10 ²	<i>N.P.</i>	FRET	cell, mouse	peripheral vascular disease

Table S6 Cys/Hcy-responsive inorganic fluorescent nanoprob

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
NaLuF ₄ :Yb,Er,Tm ¹¹⁰	ANP dye	980	540, 800	2.8×10 ⁴	<i>N.P.</i>	FRET	cell	-
NaYF ₄ :Yb,Er ¹¹¹	RHO dye	980	521, 540	1.1×10 ³	1.0×10 ⁴ – 1.0×10 ⁵	FRET	-	-
NaYF ₄ :Yb,Tm@NaYF ₄ ¹¹²	RHD dye	980	475, 518	2.0×10 ⁴	2.0×10 ⁴ – 2.0×10 ⁵	FRET	-	-
CdTe ¹¹³	Phen dye	365	545	2.5×10 ³	<i>N.P.</i>	FRET	-	-
Ag NCs ¹¹⁴	-	365	615	20	25 – 6.0×10 ³	OIQ	-	-

Table S7 GSH-responsive inorganic fluorescent nanoprobe

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
NaYF ₄ :Yb,Tm ¹¹⁵	MnO ₂ nanosheet	980	476	9.0×10 ²	<i>N.P.</i>	FRET	cell	tumor
NaYF ₄ :Yb,Tm ¹¹⁶	Pt(IV) complex	980	345, 361	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, slice	tumor
NaYF ₄ :Yb,Er@NaYF ₄ :Nd ¹¹⁷	Cy-GSH dye	808	545	6.0×10 ²	5×10 ⁴ – 3×10 ⁶	DS	cell, mouse	hepatotoxicity, tumor
NaLuF ₄ :Yb,Er,Tm@NaLuF ₄ ¹¹⁸	FeOOH	980	650, 800	<i>N.P.</i>	<i>N.P.</i>	FRET	mouse	tumor
NaYF ₄ :Yb,Er ¹¹⁹	MnO ₂ nanosheet	980	704	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	tumor
NaYF ₄ :Yb,Er@NaYF ₄ :Nd ¹²⁰	NPh dye	808, 980	1550	3.7×10 ⁵	0 – 1.2×10 ⁷	DS	cell, mouse	tumor
NaLuF ₄ :Yb,Er@NaLuF ₄ @NaLuF ₄ :Nd ¹²¹	silicomolybdate	808	900,1060	<i>N.P.</i>	2×10 ⁶ – 2×10 ⁸	FRET	cell, mouse	tumor
NaGdF ₄ :Yb,Tm@NaGdF ₄ @NaGdF ₄ :Yb,Er,Ce@NaYbF ₄ :Nd@NaGdF ₄ ¹²²	Cy-GSH dye	808,980	540, 1550	<i>N.P.</i>	0.1– 10	FRET	cell, mouse	hepatitis
NaYF ₄ :Tm <i>et al.</i> ¹²³	MnO _x nanosheet	980 <i>et al.</i>	800 <i>et al.</i>	<i>N.P.</i>	0 – 10	TG	cell, mouse	tumor
NaLuF ₄ :Nd@NaLuF ₄ ¹²⁴	silicomolybdate	808	900, 1060	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	tumor
CdTe–CdSe ¹²⁵	CdTe/CdSe	600	750	20	0 – 5.0×10 ⁵	FRET	-	-
CdTe ¹²⁶	Hg (II)	400	556	1.0×10 ²	6.0×10 ² – 2.0×10 ⁴	-	cell	tumor
CdS:Mn-ZnS ¹²⁷	disulfide bonds	375	582	<i>N.P.</i>	<i>N.P.</i>	FRET	cell	tumor
CdS ¹²⁸	glutathione reductase	300	550	<i>N.P.</i>	0 – 2.5×10 ⁴	FRET	-	-
MoS ₂ ¹²⁹	6-mercaptopurine	345	429	30	1.0×10 ³ –1.0×10 ⁵	FRET	cell, mouse	tumor
ZnS ¹³⁰	Mn(OA) ₂	365	600	<i>N.P.</i>	1.0×10 ⁶ – 1.0×10 ⁷	FRET	cell, mouse	tumor
AgInS ₂ ¹³¹	MnO ₂	500	654	<i>N.P.</i>	0 – 1.0×10 ⁷	FRET	cell, mouse	tumor
Ag ₂ Te ¹³²	Cys-GSH dye	808	1620	1.2×10 ⁴	0 – 1.0×10 ⁶	FRET	mouse	liver injury
Ag ₂ S ¹³³	MnO ₂	1064	1130	4.0×10 ⁴	2.4×10 ⁵ – 1.5×10 ⁶	FRET	cell, mouse	tumor
QD625 ¹³⁴	MnO ₂	405	625	<i>N.P.</i>	<i>N.P.</i>	FRET	cell, mouse	tumor
Au NCs ¹³⁵	-	380	455	20	60 – 1.0×10 ⁴	ET	-	-
Au NCs ¹³⁶	-	365	496	2.0×10 ²	1.5×10 ⁵ –1.2×10 ⁶	ET	cell	tumor
Au NCs ¹³⁷	-	630, 808	800, 1250	<i>N.P.</i>	<i>N.P.</i>	ET	cell, mouse	tumor

Table S8 Ascorbate-responsive inorganic fluorescent nanoprobcs

Core	Recognition group	Ex. (nm)	Em. (nm)	LOD (nM)	Linear range (nM)	Mechanism	Imaging	Disease
CePO ₄ :Tb ¹³⁸	Ce ⁴⁺	274	<i>N.P.</i>	1.1×10 ²	0 – 1.0×10 ⁴	RIR	-	-
NaYF ₄ :Yb,Tm@NaYF ₄ ¹³⁹	CoOOH	980	360	2.0×10 ²	0 – 6.0×10 ⁴	FRET	-	-
NaYF ₄ :Yb,Er ¹⁴⁰	Triethylamine and CyBSO dye	808	540	1.0×10 ²	1.0×10 ⁴ – 1.5×10 ⁵	DS	-	-
CdTe ¹⁴¹	Te ⁴⁺	450	600	1.2×10 ³	3.0×10 ² – 1.0×10 ⁴	RIR	-	-
Au NCs-PbS QDs	-	450	640, 813		5.0×10 ³ – 2.0×10 ⁴	ET	cell, mouse	-
Au NCs ¹⁴²	L-DOTA-Fe(III)	360	520	1.8×10 ⁻²	0 – 1.9×10 ⁵	FRET	-	-
Au NCs ¹⁴³	MnO ₂ nanosheet	410	572	1.5×10 ²	1.0×10 ³ – 2.0×10 ⁵	FRET	-	-

References

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