A review of responsive MRI contrast agents: 2005-2014

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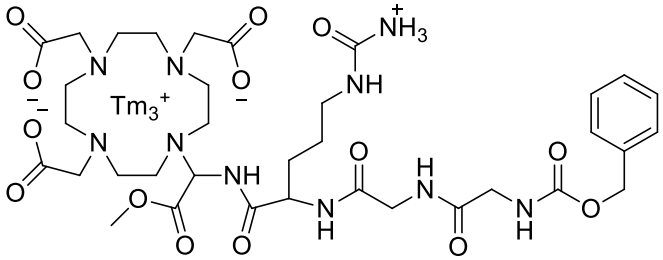
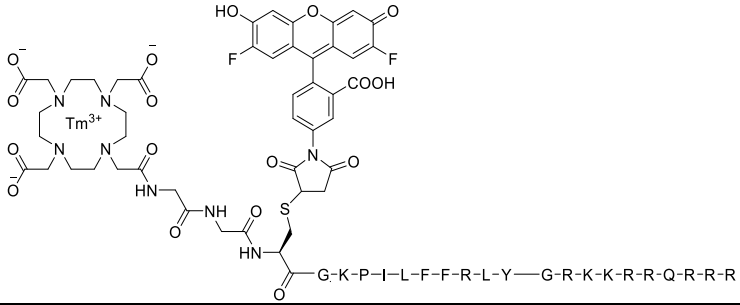
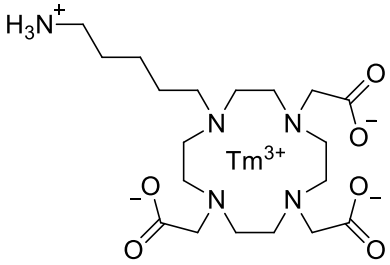
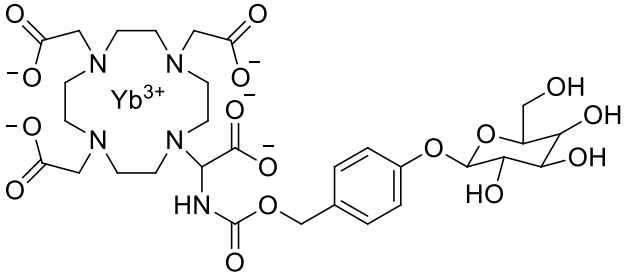
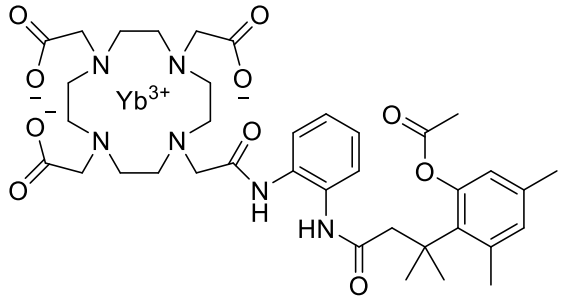
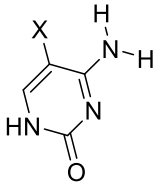
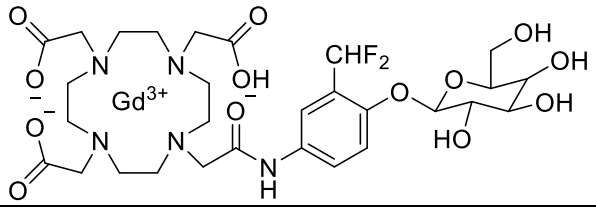
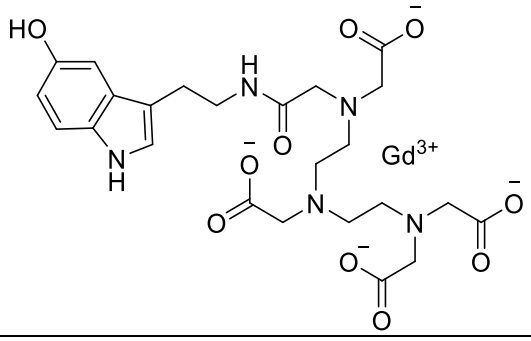
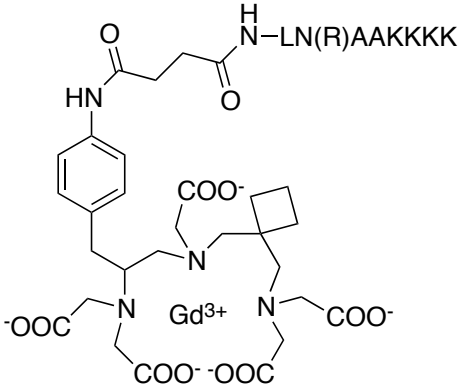
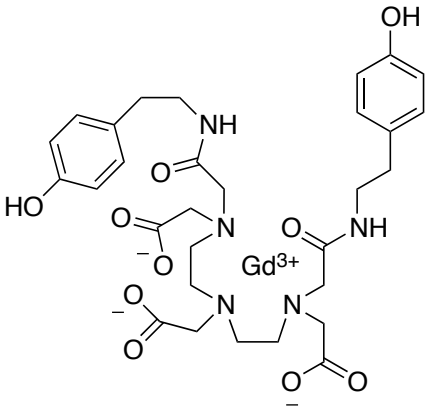
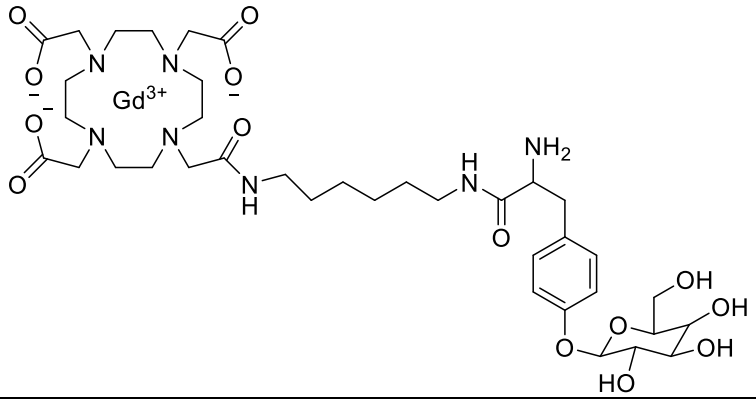
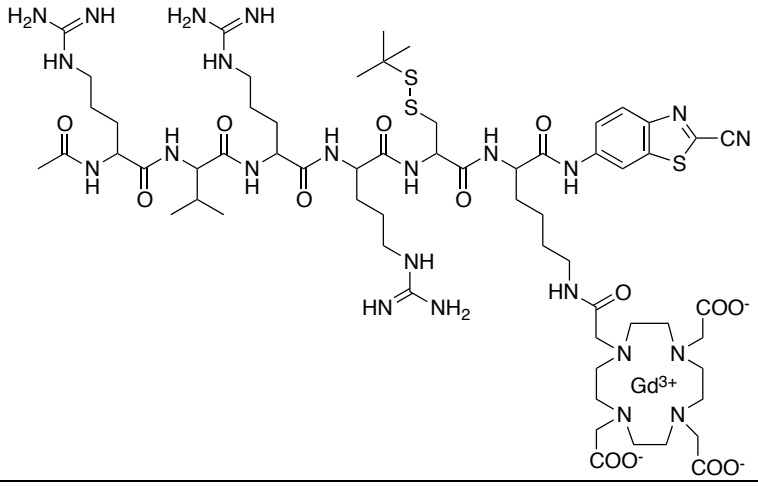
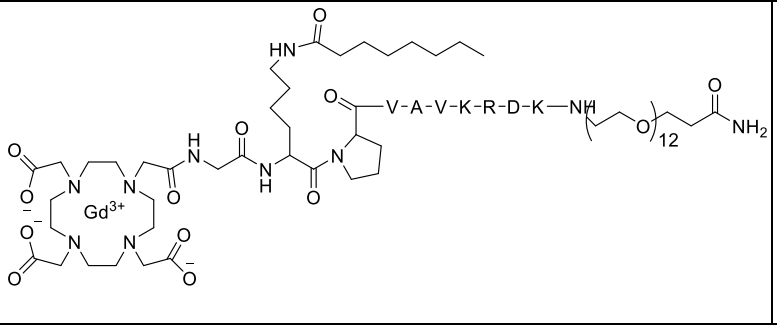
4. University of Arizona Cancer Center, University of Arizona

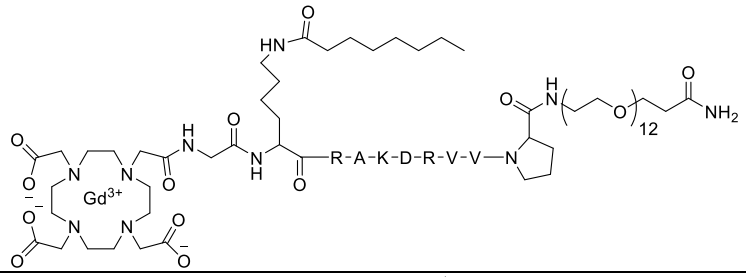
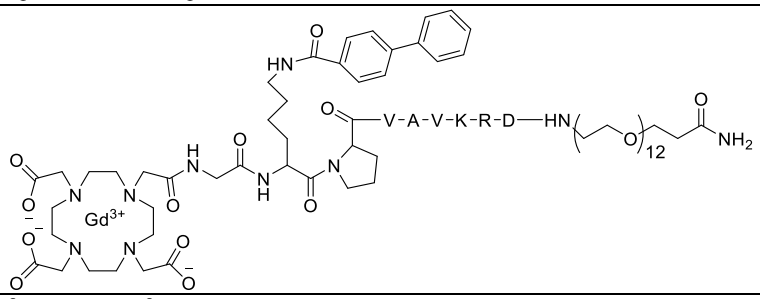
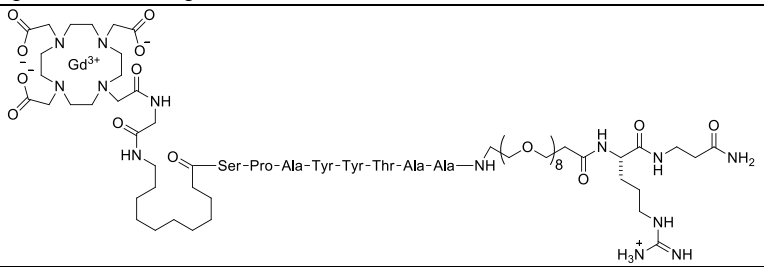
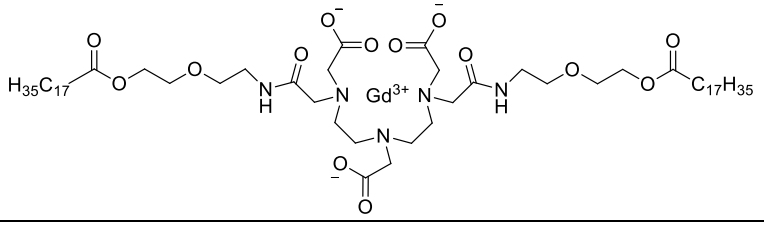
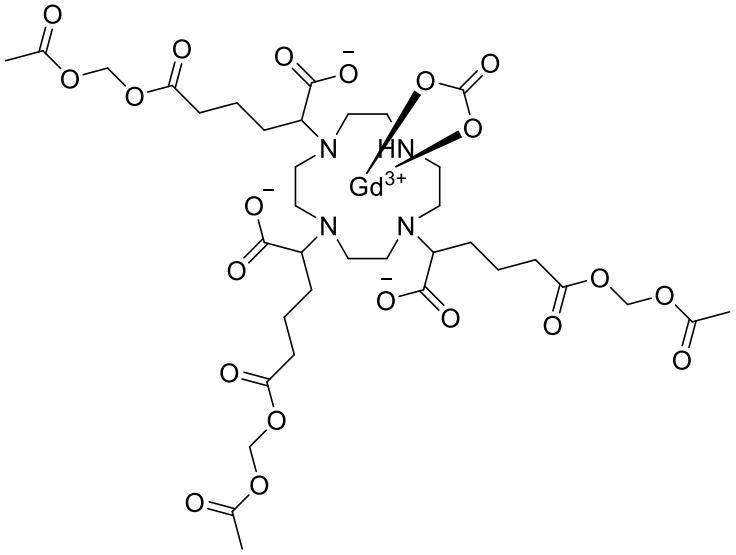
Supporting Information

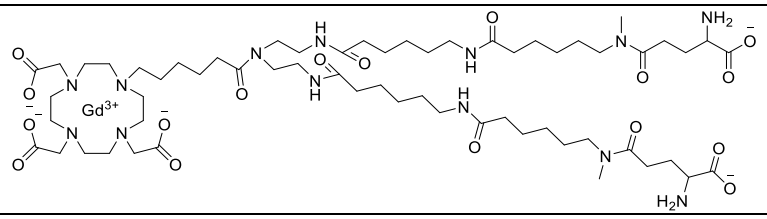
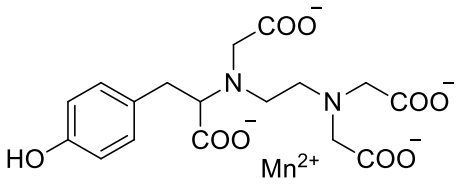
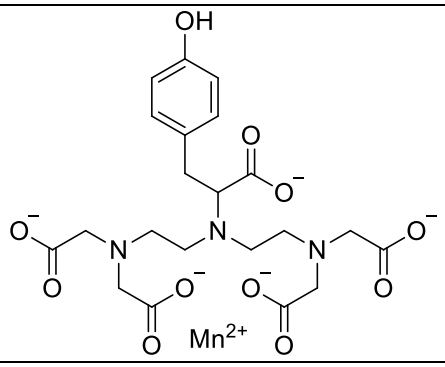
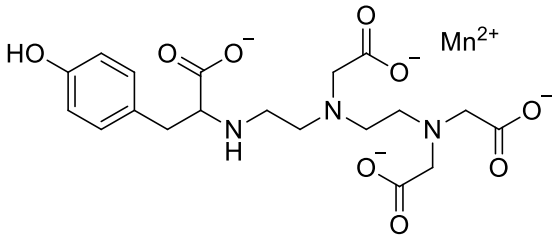
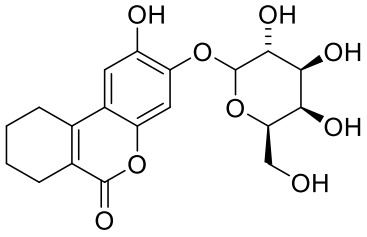
The following table lists the chemical structures, the intended biomarkers, and the references for each responsive MRI contrast agent presented in this review.

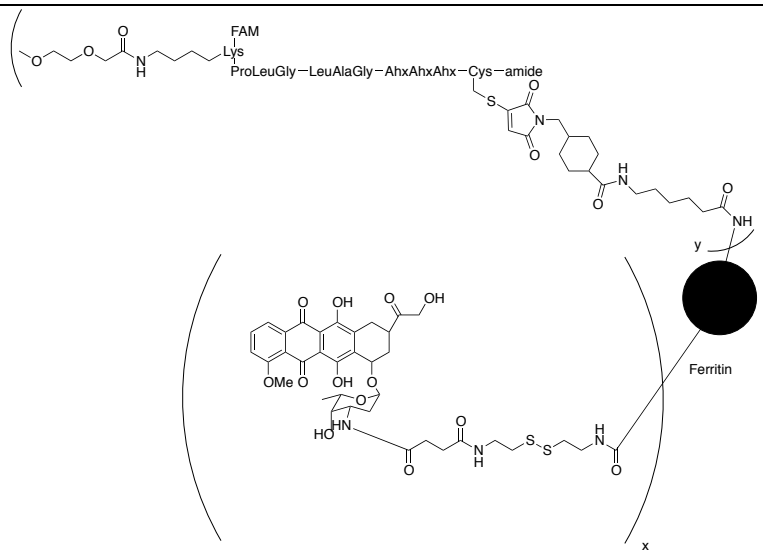
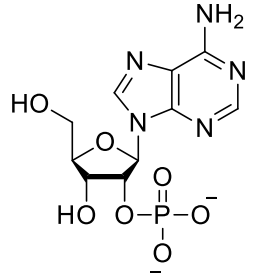
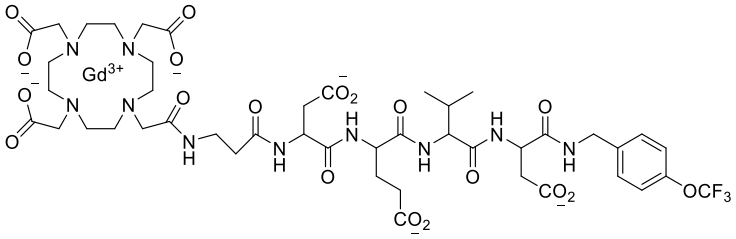
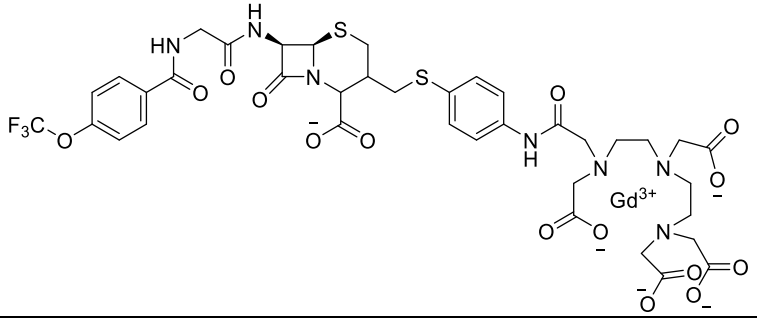
Responsive to:	Structure	Reference #:
urokinase-plasminogen activator		51,52
cathepsin D		53
transglutaminase		54
β-galactosidase		55

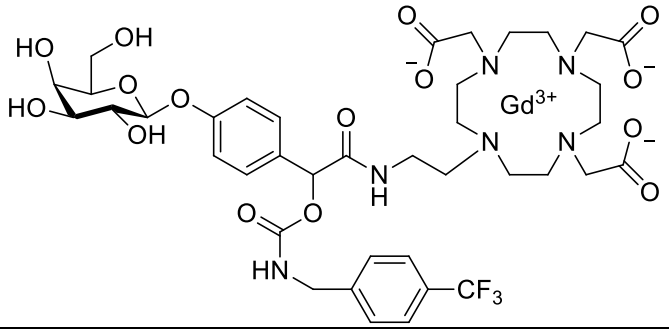
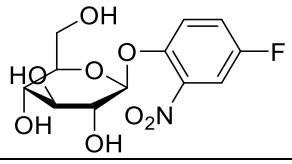
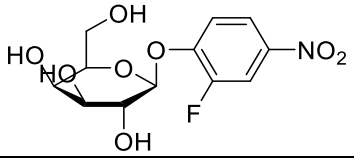
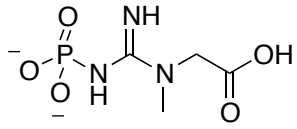
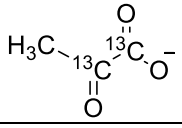
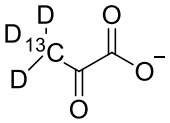
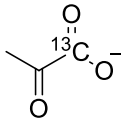
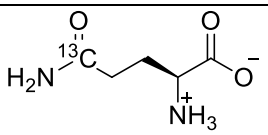
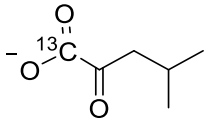
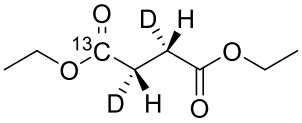
esterase		56
cytosine deaminase	 X = H or F	57
protein kinase A	LRRASLG peptide	58
β-galactosidase, human serum albumin		59
myeloperoxidase		60
Legumain		61

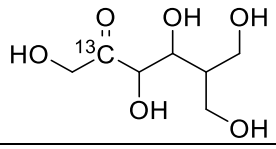
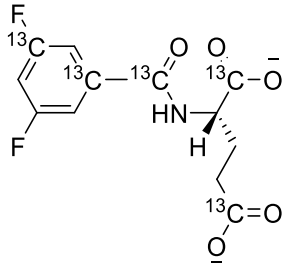
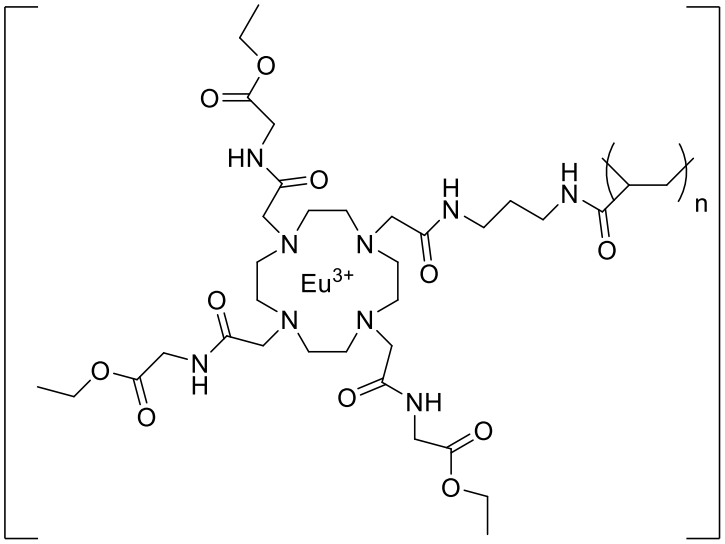
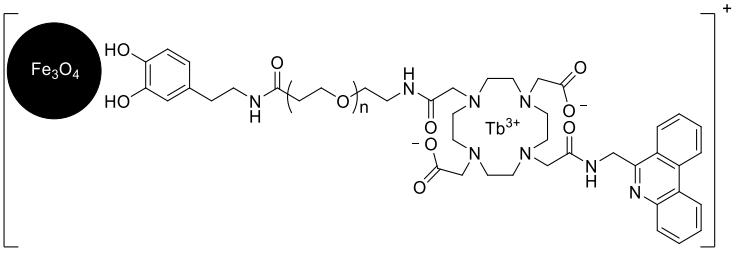
tyrosinase		62
β-galactosidase		63
Furin		64
matrix metalloproteinases		65

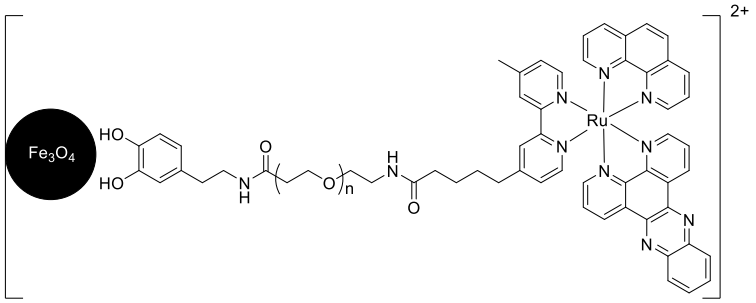
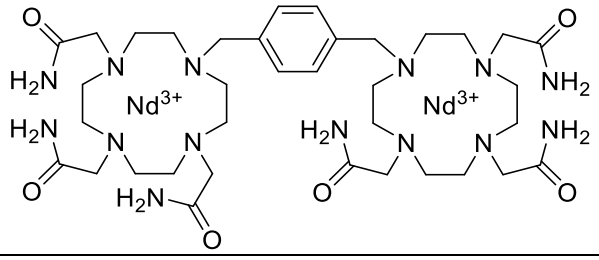
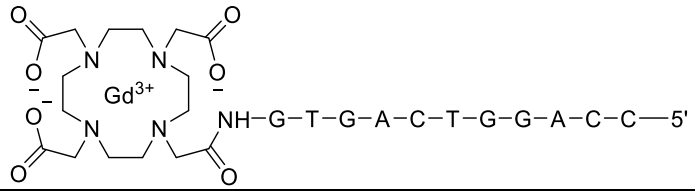
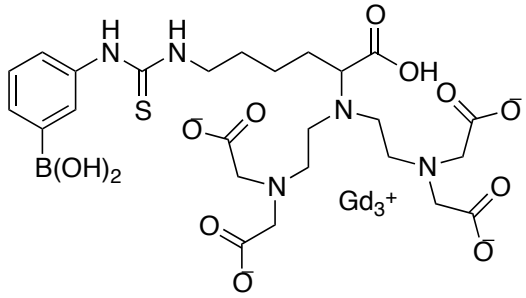
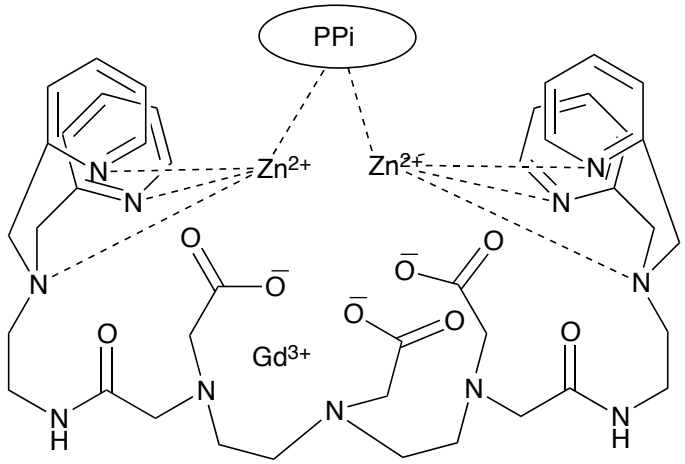
Matrix metalloproteinases		65
Matrix metalloproteinases		65
matrix metalloproteinases		66
lipase		68
esterase		70

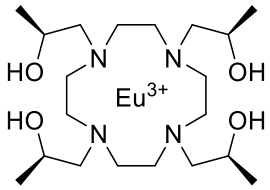
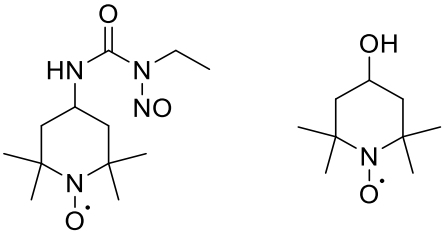
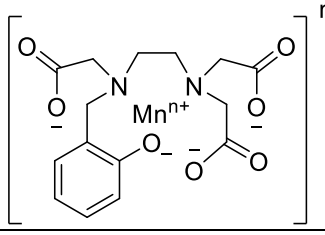
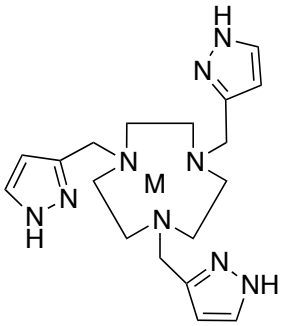
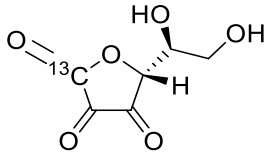
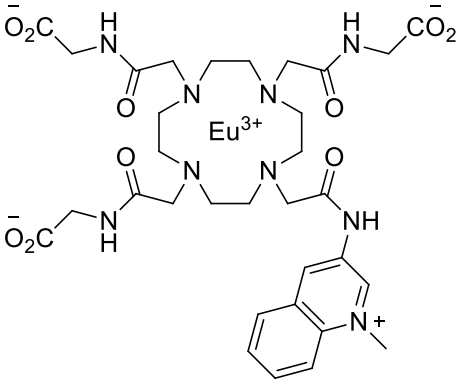
glutamate decarboxylase		71
tyrosinase		72
tyrosinase		72
tyrosinase		72
β-galactosidase		73,74

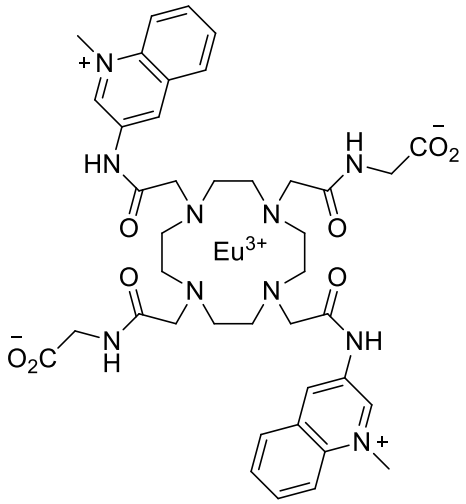
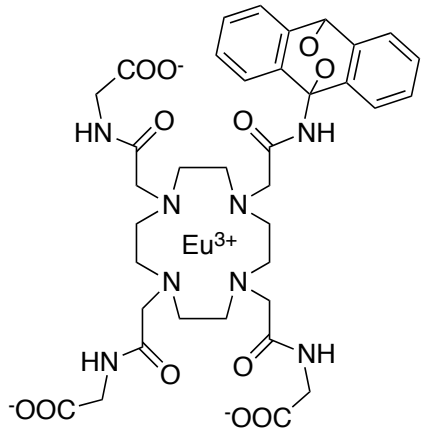
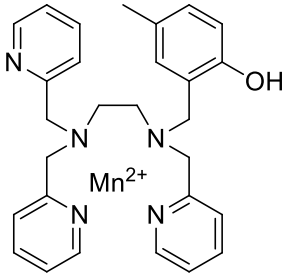
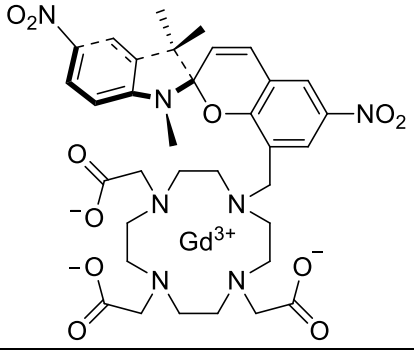
matrix metalloprotease-2		77
secreted alkaline phosphatase		80
caspase-3		82
β-Lactamase		83

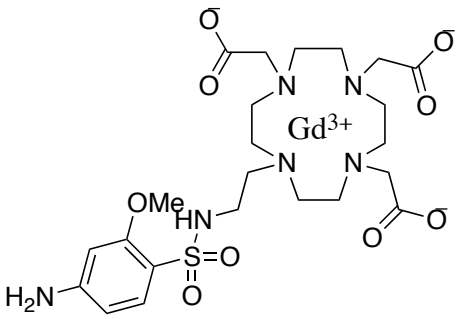
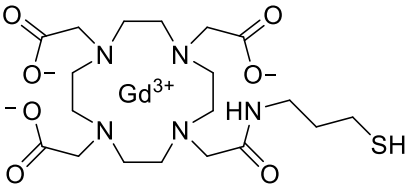
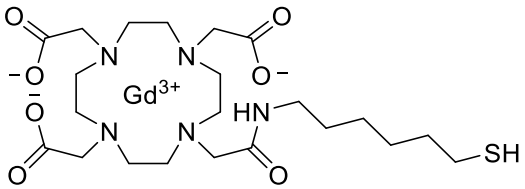
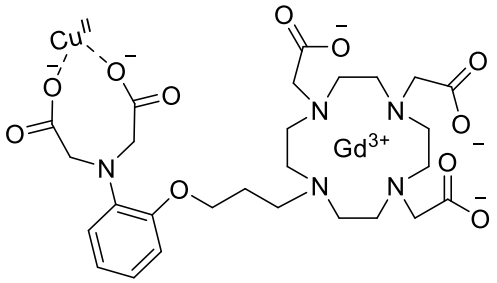
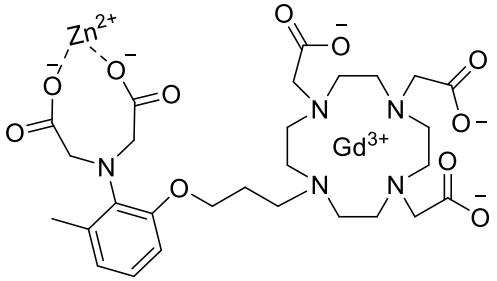
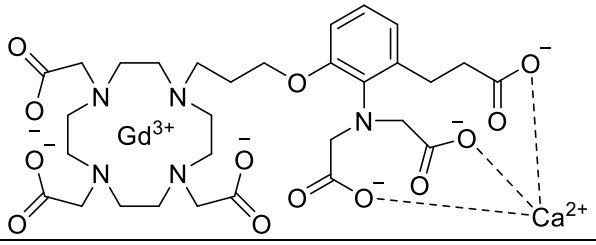
β-galactosidase		84
β-galactosidase		85
β-galactosidase		85
creatine kinase		86
pyruvate dehydrogenase, Krebs cycle metabolism, pH,		87
alanine transaminase		88
carbonic anhydrase, mitogen-activated protein kinase, pyruvate dehydrogenase, lactate dehydrogenase		89-95
glutaminase		96
Branched chain amino acid transaminase		97
succinate dehydrogenase		98

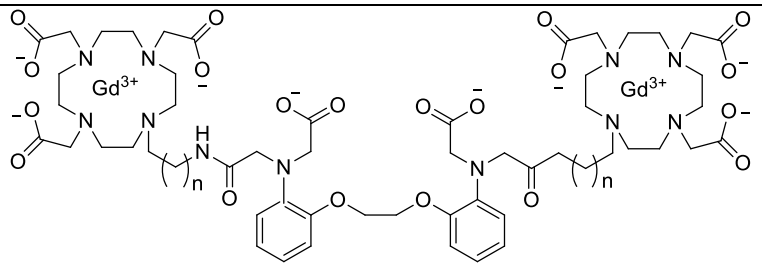
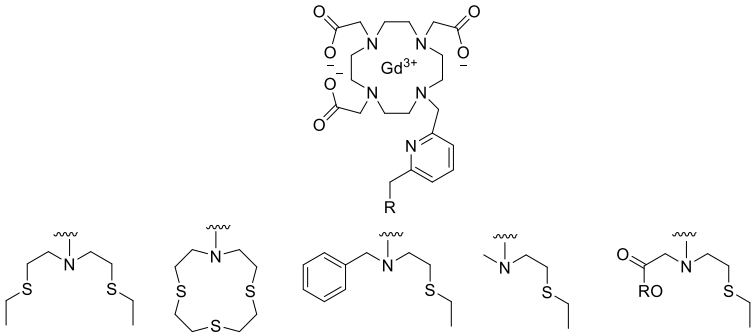
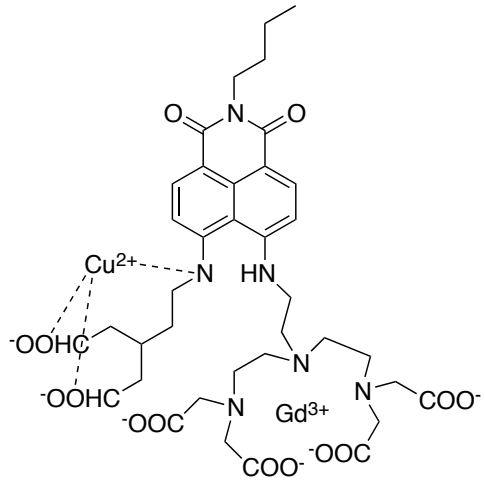
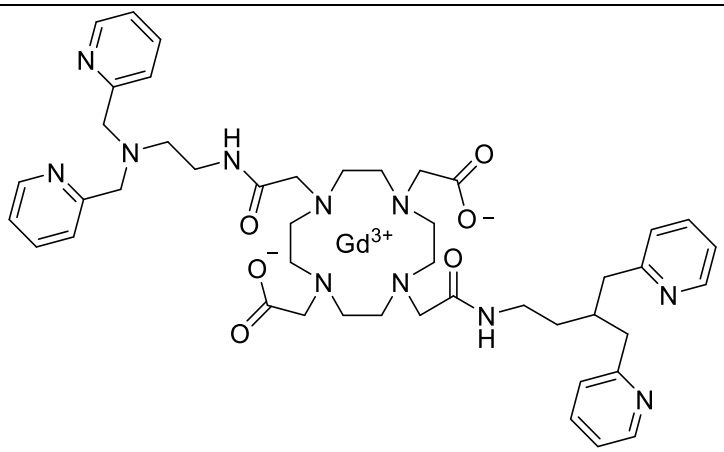
hexokinase		99
carboxypeptidase G2		100
DNA	 n = 17 (average)	104
DNA		105

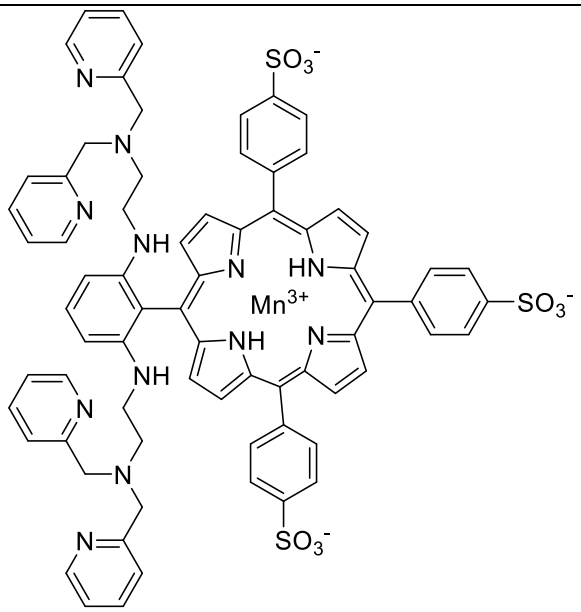
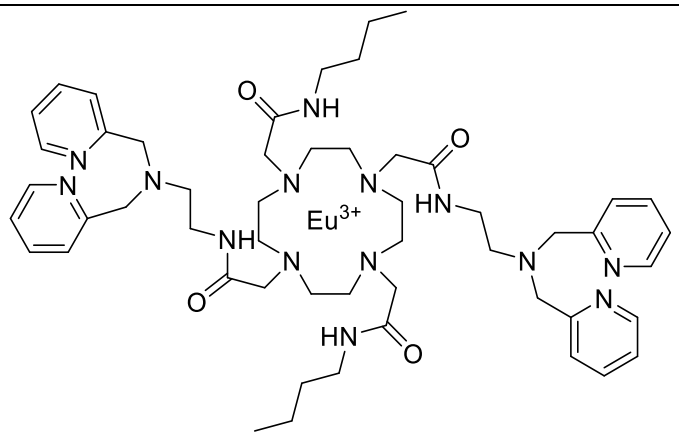
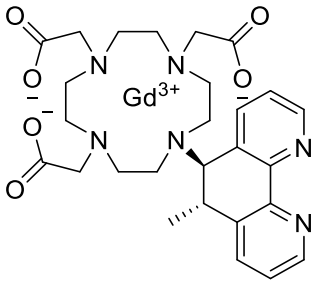
DNA		105
DNA		106
adenosine		107
carbohydrates		119
pyrophosphate		120

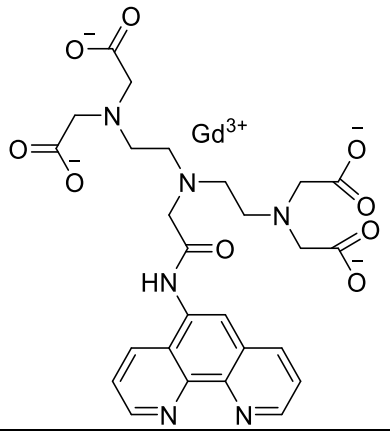
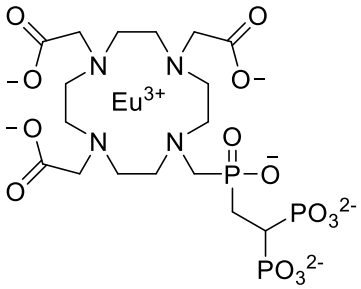
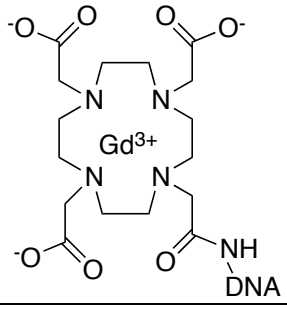
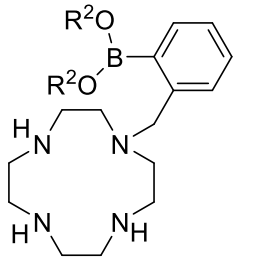
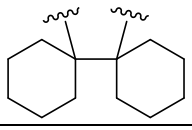
phosphate esters		123
Redox State		126
Redox State	 m-	127
Redox State	 M= Co^{2+} or Co^{3+}	128
Redox State		129
Redox State		131

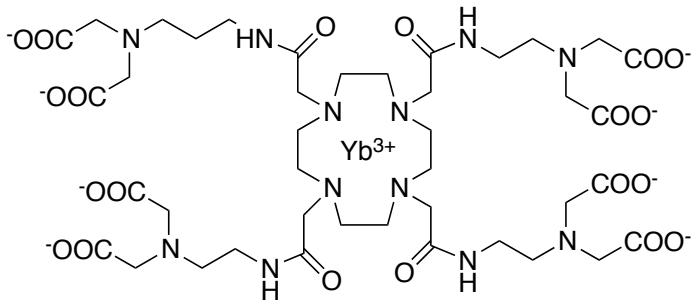
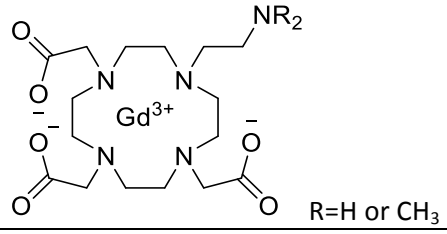
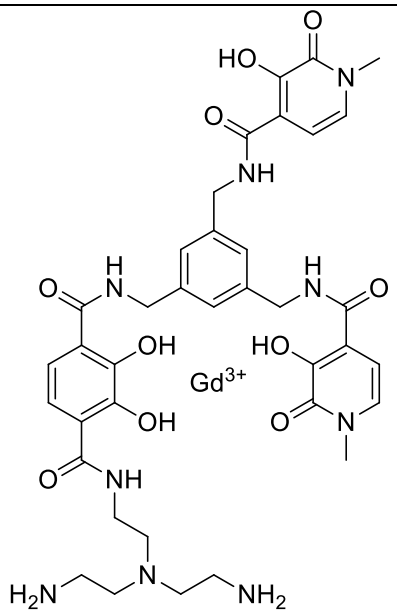
Redox State		131
Redox State		132
hydrogen peroxide		133
Visible Light, Redox State, Temp		134

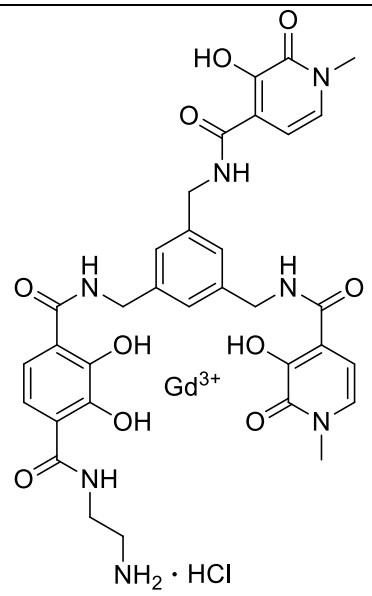
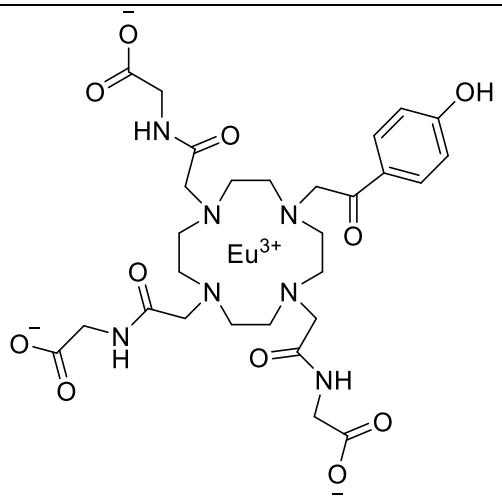
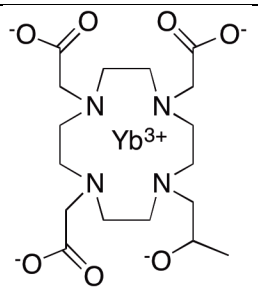
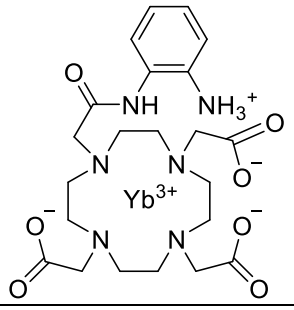
Redox State		135
Redox State		137
Redox State		137
copper Ions		141
zinc Ions		142
calcium Ions		143

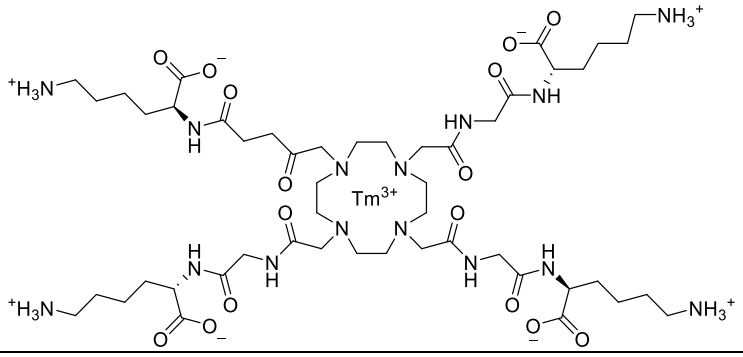
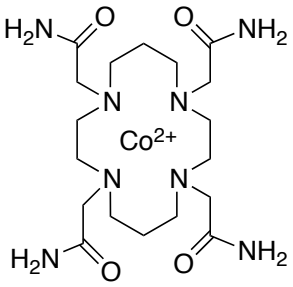
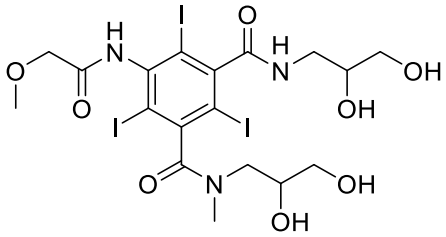
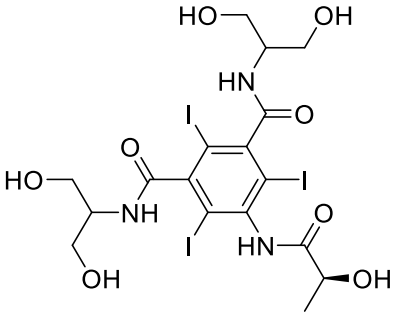
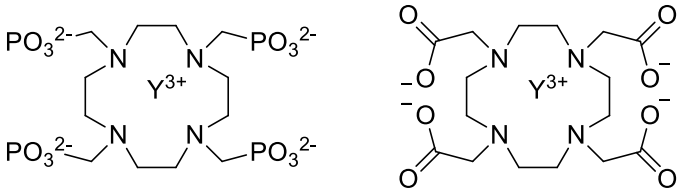
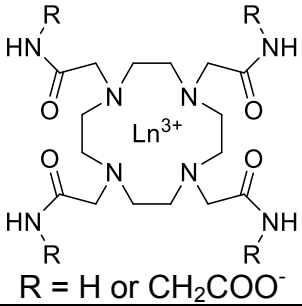
calcium Ions	 n = 1 or 2	144
copper Ions		145
copper ions		146
zinc Ions		147

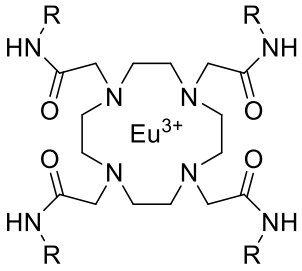
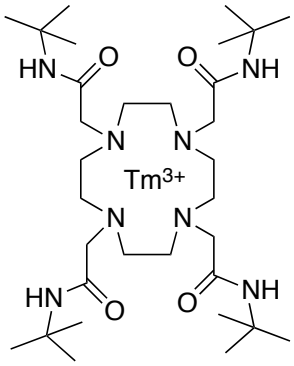
zinc Ions		149
zinc Ions		150
manganese Ions		151

iron Ions		152
calcium and magnesium Ions		153
uranium ions		154
Metal Ions	 	156

calcium ions		157
pH	 R=H or CH_3	169
pH		170

pH		170
pH		171
pH		172
pH		173,174

pH		175
pH		176
pH		177
pH		178
pH		46
Temperature		184

	Ln = Dy or Eu	
Temperature	 R = Glycine or Glycine-Phenylalanine	185
Temperature		186