

# *Abbreviations*

AO	atomic orbital
ATP	adenosine triphosphate
BBB	blood brain barrier
BNCT	boron neutron capture therapy
CAT	computer aided tomography
CEA	carcinoembryonic surface antigen
CFSE	crystal field stabilisation energy
CFT	crystal field theory
CN	coordination number
CSAP	monocapped square antiprism
CT	computed tomography
DAT	dopamine transporter
DDP	diaminedichloroplatinum(+2)
DELFI A	dissociation enhanced lanthanide enhanced fluorescence immuno-assay
DNA	deoxyribonucleic acid
DSA	digital subtraction angiography
FDA	US Food and Drug Administration
GI	gastrointestinal
GSH	glutathione
HPLC	high pressure liquid chromatography
HSA	human serum albumin
LGO	ligand group orbital
LMCT	ligand to metal charge transfer
Me	methyl
MLCT	metal to ligand charge transfer
MO	molecular orbital
MRI	magnetic resonance imaging
NMG <sup>+</sup>	<i>N</i> -methylglucammonium
NMR	nuclear magnetic resonance
NOS	nitric oxide synthase
OER	oxygen enhancement ratio
PE	pairing energy
PET	positron emission tomography
Ph	phenyl
rCBF	regional cerebral blood flow

RNA	ribonucleic acid
SBM	Solomon Bloembergen Morgan
SER	sensitiser enhancement ratio
SOD	superoxide dismutase
SPECT	single photon emission computed tomography
STZ	streptozotocin
$T_{1/2}$	is used to denote radioactive half life
$t_{1/2}$	is used to denote a reaction half time
Tf	transferrin
TRFIA	time resolved fluorescence immunoassay
TTP	tricapped trigonal prism

## *Ligand Abbreviations*

acacH		Chapter 4 in <b>133a</b>
boptaH <sub>5</sub>		Chapter 3 <b>3b</b>
bpy	2,2'-bipyridyl	Chapter 3 <b>13</b>
cdtaH <sub>4</sub>		Chapter 4 <b>12</b>
chrysi		Chapter 4 in <b>115</b>
cyclam		Chapter 2 in Figure 36
cyclen		Chapter 2 in Figure 36
dach		1,2-diaminocyclohexane
dfoH <sub>3</sub>	DFO	Chapter 4 <b>7</b>
dfohopoH <sub>4</sub>		Chapter 4 <b>14</b>
dipicH <sub>2</sub>		Chapter 4 in <b>129a</b>
dmgH <sub>2</sub>	MeC(=NOH)C(=NOH)Me	dimethylglyoxime
dmpaH <sub>2</sub>		Chapter 4 <b>6</b>
dmpe	Me <sub>2</sub> PCH <sub>2</sub> CH <sub>2</sub> PMe <sub>2</sub>	Chapter 3 in Scheme 4
dmph <sub>3</sub>		Chapter 4 <b>5</b>
dmsaH <sub>4</sub>	DMSA	Chapter 4 <b>4</b>
dmsO		dimethylsulphoxide
do3a-butrolH <sub>3</sub>		Chapter 3 <b>5c</b>
dota-tpaH <sub>4</sub>		Chapter 3 <b>8</b>
dotaH <sub>4</sub>		Chapter 3 <b>5a</b>
dotmpH <sub>8</sub>		Chapter 4 <b>149</b>
dpaH <sub>2</sub>		Chapter 4 <b>8</b>
dpdpH <sub>4</sub>		Chapter 3 in <b>9</b>
dppe	Ph <sub>2</sub> PCH <sub>2</sub> CH <sub>2</sub> PPh <sub>2</sub>	Chapter 4 in <b>116</b>
dtpa-bmaH <sub>3</sub>		Chapter 3 <b>3d</b>
dtpa-bmeaH <sub>3</sub>		Chapter 3 <b>3e</b>
dtpa-eobH <sub>5</sub>		Chapter 3 <b>3c</b>
dtpaH <sub>5</sub>	DTPA	Chapter 3 <b>3a</b>

ECD		Chapter 3 in <b>52</b>
eddaH <sub>2</sub>		Chapter 4 in <b>134</b>
edt <sup>-</sup>	diethyldithiocarbamate	Chapter 3 <b>15</b>
edtaH <sub>4</sub>	EDTA	Chapter 3 <b>4</b>
edtmpH <sub>8</sub>		Chapter 4 <b>147</b>
egtaH <sub>4</sub>		Chapter 3 <b>12</b>
emaH		Chapter 4 in <b>127b</b>
en	1,2-diaminoethane	Chapter 4 in <b>30</b>
hbedH <sub>4</sub>		Chapter 4 <b>21</b>
hedpH <sub>4</sub>	HEDP	Chapter 4 <b>148</b>
hmdpH <sub>4</sub>	HMDP	Chapter 3 <b>45c</b>
HMPAO		Chapter 3 in <b>69</b>
hp-do3aH <sub>3</sub>		Chapter 3 <b>5b</b>
HYNIC	hydrazinonicotinic acid	Chapter 3 <b>39</b>
idaH <sub>2</sub>	IDA, iminodiacetic acid	Chapter 4 <b>10</b>
ImH		imidazole
ImMe		N-methylimidazole
lihopoH <sub>4</sub>		Chapter 4 <b>13</b>
maH	maltol	Chapter 4 in <b>127a</b>
mdpH <sub>4</sub>	MDP	Chapter 3 <b>45b</b>
ms325H <sub>6</sub>	MS-325	Chapter 3 <b>7</b>
ntaH <sub>3</sub>		Chapter 4 <b>11</b>
pdtaH <sub>4</sub>		Chapter 3 <b>2</b>
phen	1,10-phenanthroline	Chapter 3 <b>14</b>
PnAO		Chapter 3 in <b>68</b>
pypH <sub>4</sub>	PYP	Chapter 3 <b>45a</b>
salenH <sub>2</sub>		Chapter 4 in scheme 13
tetaH <sub>2</sub>	TETA, 2,2,2-tet	Chapter 4 <b>9</b>
tthaH <sub>6</sub>		Chapter 3 <b>11</b>
tu		thiourea

