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LIST OF ABBREVIATIONS & SYMBOLS

Abbreviation/Symbol	Description
Å	Angstrom
μ_B	Bohr magneton
AAS	Atomic Absorption Spectroscopy
BM	Bohr magneton
B3LYP	Becke Lee, Yang and Parr
3D	Three Dimensional
byp	Bipyridyl
Pc	Pthalocyanine
Phen	1,10 phenanthroline
PPh3	Triphenyl phosphine
Salen	Salicylidene ethylenediamine
Salophen	Salicylidene phenylenediamine
CT	Charge transfer
DFT	Density Functional Theory
TDDFT	Time Dependent Density Functional Theory
bza	Benzeldehyde
SO	Styrene Oxide
TBHP	Tertiary Butyl Hydrogen Peroxide
DCM	Dichloromethane
DMF	Dimethyl Formamide
en	Ethylene diamine

LIST OF ABBREVIATIONS & SYMBOLS

FAU	Faujasite
FT-IR	Fourier Transform Infrared
FC	Field Cooling
GC	Gas Chromatography
HOMO	Highest Occupied Molecular Orbital
LUMO	Lowest Unoccupied Molecular Orbital
L1	*N*,*N*́-bis(salicylidene)-1,2-phenylenediamine
L2	*N*,*N*́-bis(5-hydroxysalicylidene)-1,2-phenylenediamine
L3	*N*,*N*́-bis(5-bromosalicylidene)-1,2-phenylenediamine
L4	*N*,*N*́-bis(5-methylsalicylidene)-1,2-phenylenediamine
L5	*N*,*N*́-bis(5-methoxysalicylidene)-1,2-phenylenediamine
L6	*N*,*N*́-bis(5-nitrosalicylidene)-1,2-phenylenediamine
L1′	*N*,*N*́-bis(salicylidene)-1,3-phenylenediamine
L2′	*N*,*N*́-bis(5-hydroxysalicylidene)-1,3-phenylenediamine
L3′	*N*,*N*́-bis(5-bromosalicylidene)-1,3-phenylenediamine
L4′	*N*,*N*́-bis(5-methylsalicylidene)-1,3-phenylenediamine
L5′	*N*,*N*́-bis(5-methoxysalicylidene)-1,3-phenylenediamine
L6′	*N*,*N*́-bis(5-nitrosalicylidene)-1,3-phenylenediamine
ML-Y	Metal complex encapsulated in zeolite Y
HS	High Spin
LS	Low Spin
XRD	X-ray diffraction
XPS	X-ray photoelectron spectroscopy

LIST OF ABBREVIATIONS & SYMBOLS

TGA	Thermo Gravimetric Analysis
DTG	Differential Thermo Gravimetric
SEM	Scanning Electron Microscopy
EDX	Energy dispersive X-ray
BET	Brunauer-Emmett-Teller
UV-Vis	Ultraviolet-Visible
SQUID	Superconducting quantum interference device
MCM-41	Mobile Composite Material-41
Na-Y	Sodium Zeolite-Y
TON	Turn Over Number
α	Alpha
β	Beta
δ	Delta
θ	Theta
λ	Lambda
ν	mu
φ	psi
ε	Epslon
$^{\circ}C$	Degree centigrade