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Manganese Complexes as Drying Catalysts for Alkyd Paints

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Manganese complexes as drying catalysts for alkyd paints

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door

Remy van Gorkum

geboren te 's-Gravenhage in 1974

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“To live only for some future goal is shallow. It’s the sides of the mountain that sustain life, not the top.”

Robert M. Pirsig

voor Viktor en Wouter

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List of Abbreviations

acac (Hacac)	acetylacetonate / 2,4-pentanedionate (2,4-pentanedione)
ATR	Attenuated Total Reflection
bpy	2,2'-bipyridine
^t BuOOH	tert-butylhydroperoxide
Co-EH	Co(II) 2-ethylhexanoate
CT	Charge Transfer
CV	Cyclic Voltammetry
CVs	Cyclic Voltammograms
dbm (Hdbm)	dibenzoylmethanoate / 1,3-diphenylpropane-1,3-dionate (1,3-diphenylpropane-1,3-dione)
DCI-MS	Direct Chemical Ionisation-Mass Spectroscopy
DFT	Density Functional Theory
H ₂ dnpppy	2-[Bis(2-hydroxy-5-nitrobenzyl)aminomethyl]pyridine
dpm (Hdpm)	dipivaloylmethanoate / 2,2,6,6 tetramethyl-3,5-heptanedionate (2,2,6,6-tetramethyl-3,5-heptanedione)
dpph	2,2-diphenyl-1-picrylhydrazyl radical
DSC	Differential Scanning Calorimetry
EL	Ethyl Linoleate
EPR	Electron Paramagnetic Resonance
FAB-MS	Fast-Atom-Bombardment Mass Spectroscopy
FOX	Ferrous Oxidation Xylenol-orange
FTIR	Fourier Transform Infra-red Spectroscopy
GC-MS	Gas Chromatography - Mass Spectroscopy
GLC	Gas-Liquid Chromatography
hfacac (Hhfacac)	hexafluoro-acetylacetonate / 1,1,1,5,5,5-hexafluoro-2,4-pentanedionate (1,1,1,5,5,5-hexafluoro-2,4-pentanedione)
HPLC	High Pressure Liquid Chromatography
IR	Infra-Red Spectroscopy
LCAO-MO	Linear Combination of Atomic Orbitals - Molecular Orbitals
LMCT	Ligand-to-Metal Charge Transfer
ML	Methyl Linoleate
MLCT	Metal-to-Ligand Charge Transfer
Mn-EH	Mn(II) 2-ethylhexanoate
MR	Methyl Ricinoate
NHE	Normal Hydrogen Electrode
NMR	Nuclear Magnetic Resonance
OAc (HOAc)	acetate anion (acetic acid)
H ₃ pap	N,N-bis(2-hydroxybenzyl)glycine
H ₂ papy	deprotonated N-(2-hydroxybenzyl)-N-(2-pyridylmethyl)glycine
phen	1,10-phenanthroline
H ₂ pppy	2-[bis(2-hydroxybenzyl)aminomethyl]pyridine
PV	Peroxide Value
Hpyppy	deprotonated 2-(bis(2-pyridylmethyl)aminomethyl)phenol

quin (Hquin)	8-oxyquinoline (8-hydroxyquinoline)
ROOH	a general alkyl hydroperoxide
SEC	Size Exclusion Chromatography
H ₂ tbppy	2-[Bis(2-hydroxy-3,5-di-tert-butylbenzyl)aminomethyl]pyridine
TG	Thermogravimetry
ToF-SIMS	Time-of-Flight Secondary Ion Mass Spectroscopy
TP	Triphenylphosphane
TPO	Triphenylphosphane Oxide
UV	Ultra Violet Spectroscopy
UV-Vis	Ligand field spectroscopy