

LIST OF ABBREVIATIONS AND SYMBOLS

A	Organic ammonium cations
M	Metal
X	Halogen
OACs	Organic ammonium chloride salts
OACs	Organic ammonium cations
OIHCs	Organic inorganic hybrid compounds
OANSs	Organic ammonium nitrate salts
1	$(\text{Anilinium})_2\text{CuCl}_4$
2	$(4\text{-Fluoroanilinium})_2\text{CuCl}_4$
3	$(4\text{-Chloroanilinium})_2\text{CuCl}_4$
4	$(3\text{-Chloroanilinium})_8[\text{CuCl}_6]\text{Cl}_4$
5	$(4\text{-Nitroanilinium})_2\text{CuCl}_4$
6	$(3\text{-Nitroanilinium})_2\text{CuCl}_4$
7	$(\text{Benzilinium})_2\text{CuCl}_4$
8	$(4\text{-Chloro benzilinium})_2\text{CuCl}_4$
9	$(2\text{-Adamantyl ammonium})_2\text{CuCl}_4$
10	$(2\text{-Aminebenzothiazolium})_2\text{CuCl}_4$
11	$[(R)\text{-Methyl benzilinium}]_2\text{CuCl}_4$
12	$[(S)\text{-Methyl benzilinium}]_2\text{CuCl}_4$
13	$[(R)\text{-4-Chloro-methyl benzilinium}]_2\text{CuCl}_4$
14	$[(S)\text{-4-Chloro-methyl benzilinium}]_2\text{CuCl}_4$
15	$[(R)\text{-Ethyl benzilinium}]_2\text{CuCl}_4$
16	$[(S)\text{-Ethyl benzilinium}]_2\text{CuCl}_4$
17	$[(S)\text{-2-Butyl ammonium}]_2\text{CuCl}_4$
18	$[(R)\text{-Propane-1,2-diammonium}]\text{CuCl}_4$
19	$[(S)\text{-Propane-1,2-diammonium}]\text{CuCl}_4$
20	$(3\text{-Chloro anilinium})_8[\text{CoCl}_6]\text{Cl}_4$
21	$(2\text{-Adamantyl ammonium})_3\text{CoCl}_5 \cdot \text{H}_2\text{O}$
22	$[(R)\text{-Methyl benzilinium}]_2\text{CoCl}_4$
23	$[(\text{Anilinium})_2\text{MnCl}_4]_3 \cdot 2\text{C}_2\text{H}_5\text{OH}$
23-D	$(\text{Anilinium})_2\text{MnCl}_4$
23-RE	$[(\text{Anilinium})_2\text{MnCl}_4]_3 \cdot 2\text{C}_2\text{H}_5\text{OH}$

23-RM	$[(\text{Anilinium})_2\text{MnCl}_4]\cdot\text{CH}_3\text{OH}$
23-RW	$[(\text{Anilinium})_2\text{MnCl}_4]\cdot 2\text{H}_2\text{O}$
23-RWE	$[(\text{Anilinium})_2\text{MnCl}_4]_3\cdot 2\text{C}_2\text{H}_5\text{OH}$
24	$(3\text{-Chloro anilinium})_8[\text{MnCl}_6]\text{Cl}_4$
FT-IR	Fourier transforms infrared spectroscopy
CHN	Elemental analyzer
NMR	Nuclear magnetic resonance
XRD	X-Ray diffraction
TG/DTA	Thermogravimetry/Differential thermal analyzer
DSC	Differential scanning calorimetry
EPR	Electron paramagnetic resonance
SEM	Scanning electron microscope
SQUID	Superconducting quantum interference device
EDAX	Energy dispersive analysis of X-ray
TMS	Tetra methyl silane
FEG	Field emission guns
CCD	Charge-coupled device
PASCAL	Pressurization by automatic speed-up and continuous adjustment logic
RT	Room temperature
LT	Low temperature
HT	High temperature
A.U.	Arbitrary unit
NP	Narrow-pore
LP	Large-pore
ZFC	Zero-field-cooled
FC	Field-cooled
K	Kelvin
cm	Centimeter
α	Alpha
β	Beta
γ	Gama
δ	Delta
ppm	Parts per million
n	Number

θ	Angle
Å	Angstrom
°	Degree
nm	Nanometer
μm	Micrometer
T	Tesla
T	Temperature
Oe	Oersted
χ	Molar magnetic susceptibility
χT	Molar magnetic susceptibility by temperature
S	Spin quantum number
mol	Mole
μ	Magnetic dipole
B	Magnetic field
MHz	Mega hertz
min	Minute
mg	Milligram
mL	Milliliter
J g^{-1}	Joule per gram
Z	Number of molecule in unit cell
V	Volume
w	Weak
m	Medium
s	Strong
vs	Very strong
ssh	Strong sharp
vssh	Very strong sharp
calc.	Calculated
<i>Anal.</i>	Analysis
g	g -factor
g_{\parallel}, g_{\perp}	Principal values of an axial
D_s	Equatorial distance
D_L	Axial distance
μ_B	Bohr magneton

χ'	Susceptibility in-phase
χ''	Susceptibility out-of-phase
μ_{eff}	Magnetic moment
M	Molar magnetization
H	Magnetic field
θ	Weiss constant
C	Curie constant