

## Inhaltsverzeichnis

Abbreviations	iii
1 Introduction	1
1.1 From coins to catalysts	1
1.2 Investigated precursor systems	4
1.3 Aspects of Cu and Ag chemistry	7
1.4 Synthesis methods	8
1.5 Objectives and outline of this thesis	11
1.6 References	12
2 Evolution of zincian malachite synthesis by low-temperature co-precipitation and its catalytic impact on the methanol synthesis	19
2.1 Abstract	19
2.2 Introduction	19
2.3 Experimental section	21
2.4 Results and discussion	25
2.5 Conclusions	38
2.6 References	39
2.7 Supporting information	41
3 Investigations of Cu/Zn oxalates from aqueous solution: single-phase precursors and beyond	53
3.1 Abstract	53
3.2 Introduction	54
3.3 Experimental section	56
3.4 Results and discussion	58
3.5 Conclusions	70
3.6 References	71
3.7 Supporting information	73

4	Synthesis and characterization of Ag-delafoffites $AgBO_2$ ( <i>B</i> : Al, Ga, In) from rapid hydrothermal process	91
4.1	Abstract	91
4.2	Introduction	91
4.3	Experimental section	94
4.4	Results and discussion	97
4.5	Conclusions	115
4.6	References	115
4.7	Supporting information	118
5	Summary and final conclusions	131