

TABLE OF CONTENTS

TABLE OF CONTENTS	3
AUTHOR.....	4
1 INTRODUCTION	5
2 METALLIC ISLAND GROWTH ON ULTRATHIN OXIDE LAYERS.....	5
2.1 Thin film/island growth, transport of adsorbed species	5
2.2 Energy considerations: equilibrium structure of metal/oxide systems	8
2.3 Guided growth of cobalt islands	8
2.3.1 Cobalt on SiO_2	9
2.3.2 The effect of FIB on the substrate	9
2.3.3 The deposition of Co on FIB induced nucleation sites	9
3 ADAPTABILITY AND HIERARCHICAL SELF-ASSEMBLY IN METAL-ORGANIC ARCHITECTURES ON METAL SUBSTRATES	11
3.1 Self-assembly at surfaces	11
3.2 System of study and introduction to experiment	12
3.3 Adaptability in metal-organic coordination networks	13
3.3.1 Fe-BDBA networks on Au and Ag surfaces	13
3.3.2 On the border of self-assembly	15
3.4 Hierarchical assembly of complex structures	16
3.4.1 Ni Decoration of Fe-BDBA networks on Ag(100)	17
3.4.2 Ni Decoration of Fe-BDBA networks on Au(111)	18
3.4.3 Binding Guest Molecules into Ni-Functionalized Cavities on Ag(100)	19
4 CONCLUSIONS AND OUTLOOK	20
5 ACNOWLEDGEMENT.....	21
6 REFERENCES	21
7 ABSTRAKT	23