Glycoluril Based Oligomers

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Thesis is focused on chemistry of glycoluril, particularly non-cyclic glycoluril oligomers with formaldehyde. New approach to preparation of 1,6-disubstituted glycoluril based on cyclocondensation of bisureas with glyoxal was introduced. Selective method for synthesis of *o*-xylylene protected glycoluril oligomers with two, three and four glycoluril units was developed. This methodology allows preparation of individual oligomers without laborious use of chromatographic techniques or fractional crystallization. These oligomers represent a new class of host molecules capable to bind positively charged molecules e.g. ammonium salts. These oligomers could have similar potential as cucurbiturils, well known cavitands, which are now tested for instance in drug formulations and influence drug stability, releasing and selectivity.