

## **Dicaffeoylquinic acids – occurrence, structure elucidation, and characterization as primary reference substances**

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A widespread subgroup of polyphenolic compounds are the dicaffeoylquinic acids (diCQA). They occur in e.g. artichoke (*Cynara scolymus*), coffee (*Coffea sp.*), mate (*Ilex paraguariensis*) and coneflower (*Echinacea sp.*). Six isomeric diCQA exist, i.e. 1,3-, 1,4-, 1,5-, 3,4-, 3,5- and 4,5-dicaffeoylquinic acid, which makes isolation as well as structure elucidation a challenging process. For analytical purposes of medicinal herbs and food products well characterized reference substances are required but so far only cynarin (1,3-diCQA) has been commercially available. The situation is further complicated by the fact that different nomenclature systems exist. As a result the ring numbering of the quinic acid core can differ from IUPAC nomenclature and is inconsistent not only in the scientific literature but also in the product description of commercial suppliers. The poster describes the isolation, structure elucidation and characterisation of dicaffeoylquinic acids as primary reference substances for analytical purposes.