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# Degradation studies of modified inulin as potential encapsulation material for colon targeting and release of mesalamine

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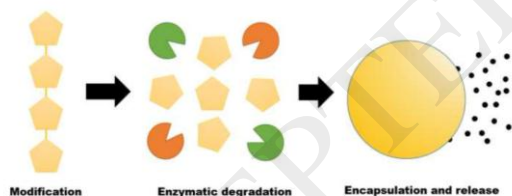
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## Graphical abstract



## Highlights

- Modification of inulin with acetic anhydride with adjustable degree of substitution and investigation thereof
- Enzymatic degradation studies using inulinase and esterase for acetylated inulin derivatives and characterization by HPAEC-PAD
- Encapsulation of mesalamine with inulin and acetylated inulin by spray-drying and investigation of the release behavior

## ABSTRACT

Due to the potential to treat colon specific diseases with reduced side effects, colon targeting has become of high interest over the last decades. Chemical modified inulin was investigated for its potential as encapsulation material regarding its enzymatic degradability and its drug release behavior. Different degrees of acetylated inulin (degree of substitution, DS, 0.3-2.1) were synthesized. The chemical modification leads to a reduction in enzymatic degradability by inulinase and esterase, enzymes which can be expressed by the colon microbiota. Acetylated inulin was only hydrolyzed to fructose units up to DS of 1.3. Microparticles made of

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