



Loading and release of skin care components in Upsalite®

Join us in the development of groundbreaking applications of Upsalite® for Dermatology!

Disruptive Materials AB distributes and develops Upsalite® for a variety of applications. Upsalite® has the highest surface area ever measured for an alkaline earth metal carbonate with a pore structure that can be precisely tailored. It shows promising performance as a drug delivery vehicle in vitro where the solubility of poorly soluble drugs can be increased by several hundred percent and the release rate can be adjusted.

In this Master thesis the uptake and release of a number of substances related to skin care in Upsalite® will be investigated. The Master thesis will consist of four parts (1) Load skin care components into different Upsalite® grades (2) Set up a diffusion cell and perform diffusion experiments with different skin care components. (3) Analyse the diffusion tests by HPLC+UV spectroscopy of the diffusion cell medium and spectroscopy (FTIR, Raman, UV-VIS)[\[1\]](#) of the Upsalite® powder. (4) Evaluate the diffusion cell as a screening method for potential products containing Upsalite® in dermatology.

The Master thesis will be conducted at Disruptive Materials, Uppsala and at APL (Apotek Produktion & Laboratorier AB), Kungens Kurva, Stockholm.

Courses corresponding to a Master degree in Pharmacy, Pharmaceutical chemistry or similar. The applicant should be well skilled in organic chemistry / pharmaceutical lab work. Experience of HPLC **and other liquid**

analysis techniques are meriting. The applicant should know the written and spoken English language well.

Start date: 2017-01-16 (20 weeks)

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Applications should include personal letter, CV and grades from Master's courses by **12th of December 2016**.

[1] The analysis may partially be outsourced.



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