

Interactive
Comment

Interactive comment on “Concentrations of higher dicarboxylic acids C₅-C₁₃ in fresh snow samples collected at the High Alpine Research Station Jungfrauoch during CLACE 5 and 6” by R. Winterhalter et al.

Anonymous Referee #2

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The paper describes the analysis of fresh snow samples, which were collected at the high alpine research station Jungfrauoch in 2006 and 2007. As a consequence of analytical technique developed, the study concentrates on higher dicarboxylic organic acids. Solid phase extraction was used for concentration of the samples were analysed by HPLC-ESI-MS-TOF (negative ion mode). Several long-chain dicarboxylic acids from C₅ to C₁₃ and phthalic acid were identified and quantified. The concentrations were observed to be dependent on the back trajectory of the air mass arriving at the measurement site.

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Interactive Discussion

Discussion Paper



The topic of the paper is certainly within the scope of ACPD and ACP, since few information exist on the concentration of higher organic acids in snow samples. Organic compounds are still under discussion to influence the ability of atmospheric particles to serve as ice nuclei. Therefore, knowing the chemical speciation of the organics present in snow samples is valuable information, despite the fact that the conclusions that can be drawn from such bulk measurements are limited (also discussed by the authors), since it remains unclear when and how the analytes entered the samples. However, the analytical technique is well described and the results appear to be highly reliable. The abstract is appropriate and contains the main results. Earlier work is adequately recognized. Therefore, I recommend to publish the paper also in ACP after some very minor revisions.

The authors often write 'probe' and probably mean 'sample'

Page 18696: The authors mention that 6 mL vials were used. How much resin in that case ?

Page 18697: The sentence 'In contrast to conventional ... for LC-MS' is redundant and could be deleted.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 18689, 2008.

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