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List of publications included in the thesis as appendices:

I:

Vítek, P., Osterrothová, K., Jehlička, J. (2009). Beta-carotene—A possible biomarker in the Martian evaporitic environment: Raman micro-spectroscopic study. *Planetary and Space Science* **57**, 454-459.

II:

Vítek, P., Jehlička, J., Edwards, H. G. M., Osterrothová, K. (2009). Identification of β-carotene in an evaporitic matrix — evaluation of Raman spectroscopic analysis for astrobiological research on Mars. *Analytical and Bioanalytical Chemistry* **393**, 1967-1975.

III:

Vítek, P., Edwards, H. G. M., Jehlička, J., Cox, R. Evaluation of portable Raman instrumentation for identification of β-carotene and mellitic acid in two-component mixtures with halite. (Submitted to *Spectrochimica Acta A*).

IV:

Vítek, P., Edwards, H. G. M., Jehlička, J., Ascaso, C., De los Ríos, A., Valea, S., Villar, S. E. J., Davila, A. F., Wierzchos, J. (2010). Microbial colonization of halite from the hyper-arid Atacama Desert studied by Raman spectroscopy. *Philosophical Transactions of the Royal Society A* **368**, 3205-3221.