We report on sugars and sugar-like compounds that are produced by the irradiation of astrophysical ice analogs and compare the results to the organics seen in meteorites.

Development of a chromatographic method that will allow the simultaneous quantification and isotopic analysis of meteoritic monocarboxylic acids.

A study was conducted to determine the efficacy of using silica aerogel to collect and concentrate ambient trace organics for spectroscopic analysis.

We show a multiplex inhibitory microarray immunoassay for simultaneous detecting of several small aromatic compounds at ppb-ppt for planetary exploration.

Here we present DNA extraction results from Mars-relevant cell concentrations and characterize the sequencing efficiency of nanopore technologies.

We report on analyses of increasingly complex organics by pyrolysis-GC-MS in the presence of perchlorate.

MOMA and RLS (Raman) are major instruments onboard the ExoMars rover. We illustrate the rover’s synergistic payload focusing on three Mars-relevant minerals.

We describe the status and testing of the Mars Organic Molecular Analyzer (MOMA) flight instrument in preparation for the 2020 ExoMars rover mission.
Thompson K. A., Blake D. F., Sarrazin P., Bristow T.  
**POSTER LOCATION #613**

*X-Ray Fluorescence Source Modeling for the MapX Imaging Spectrometer: Rocky Planets and Ocean Worlds [#1602]*

Source requirements are presented for an imaging X-ray fluorescence spectrometer intended for landed missions on rocky planets and ocean worlds.

Ashley G. M., Delaney J. S.  
**POSTER LOCATION #614**

*‘Critical Zones’ on Mars and Across the Solar System [#1179]*

The Critical Zone concept is a fundamental approach to terrestrial geology. Critical Zones occur on rocky bodies across the solar system and need to be studied.

**POSTER LOCATION #615**

*“Color Biofinder” for Fast, Non-Contact Detection of Biomaterials in Ocean Worlds [#1308]*

The Color Standoff Biofinder, a search of life instrument, provides color bio-fluorescent images of biological materials and residues with fast detection.

**POSTER LOCATION #616**


The Mapping Imaging Spectrometer (MISE) for the Europa flyby mission could be used to identify and map the distribution on compounds to assess the habitability.

Smith H. D., Duncan A. G., Lloyd C. R., Merrill L., Li J.  
**POSTER LOCATION #617**

*Ocean Biomolecule Explorer for Astrobiology [#2990]*

Instrument payload for the Europa Lander.

**POSTER LOCATION #618**

*Remote Raman Imager for Fast Detection of Mixed Mineral Layers and Biomaterials [#2202]*

A remote Raman imager is demonstrated to detect layers of minerals and biological materials in a single measurement 1 m distance and 1 s integration time.

Vos H. C., Kołodziejczyk A., Harasymczuk M., Vargo J., Foing B. H.  
**POSTER LOCATION #619**

*Laboratory Spectroscopy of Minerals, Water, Organics, and Biomarkers [#2419]*

Results from laboratory spectroscopy in the UV/VIS spectrum of minerals, water, and organics.

**POSTER LOCATION #620**

*Development of the Molecular Analyzer for Complex Refractory Organic-Rich Surfaces (MACROS) [#2366]*

The Molecular Analyzer for Complex Refractory Organic-rich Surfaces (MACROS) is a novel instrument for the surface composition analysis of targeted bodies.