

# Supporting Information

Ferus et al. 10.1073/pnas.1412072111

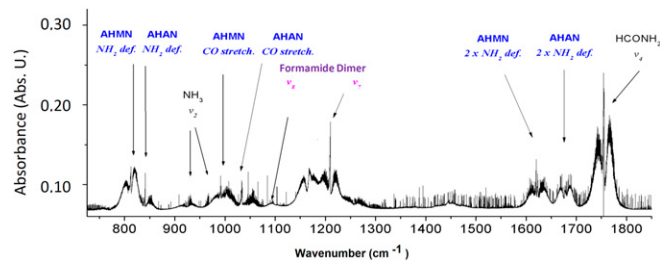


Fig. S1. Gas-phase absorption spectrum of formamide sample treated by LIDB in the presence of NiFe meteorite. Absorption bands of AHAN and AHMN intermediates appear in blue.

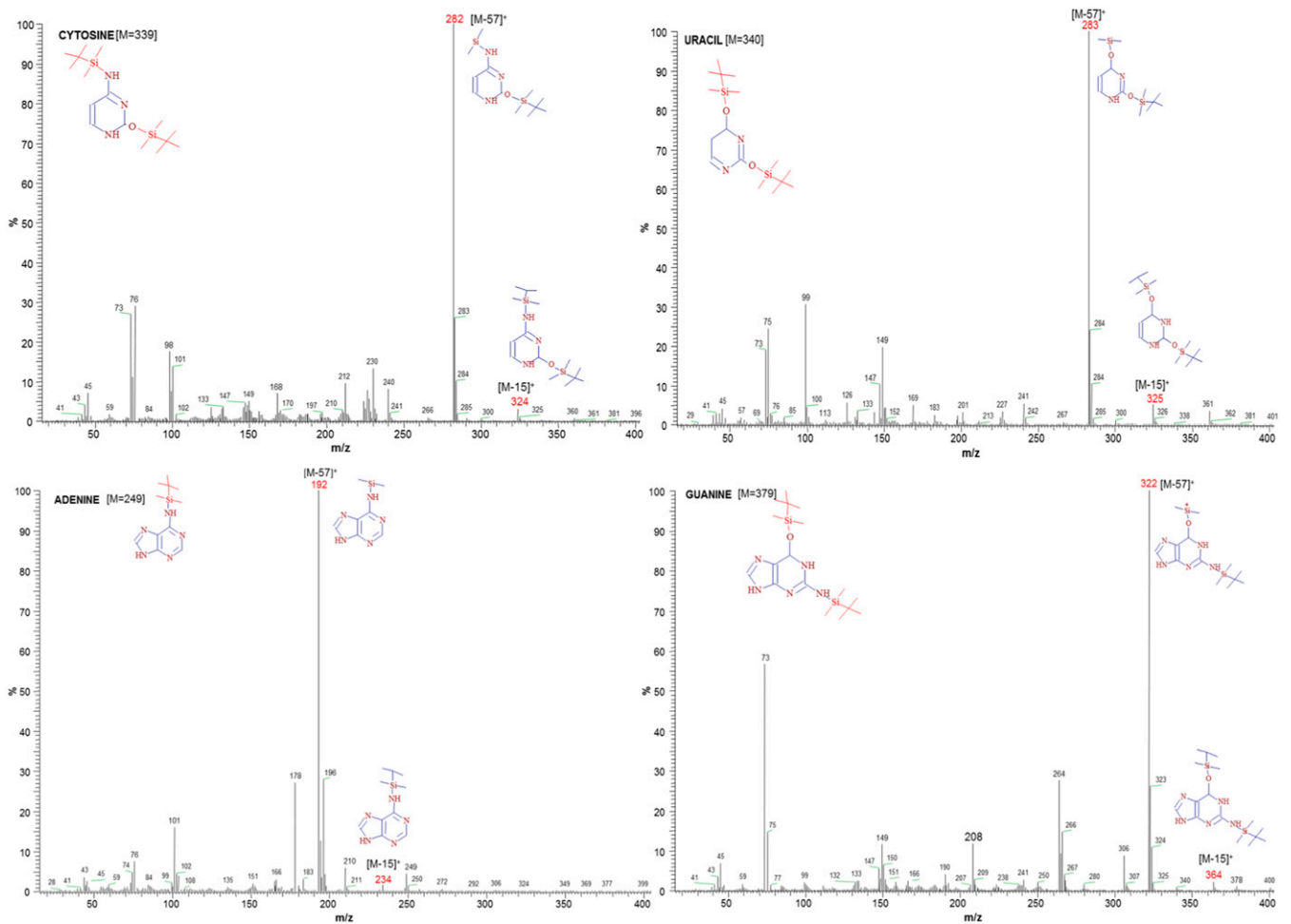
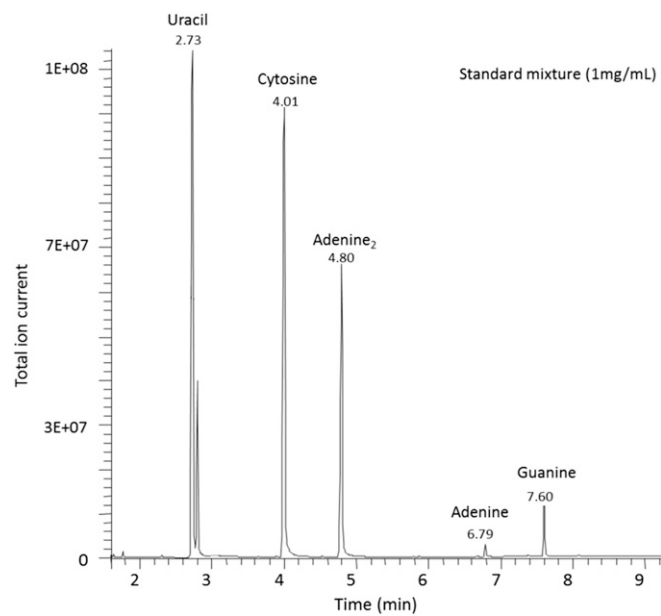


Fig. S2. The mass spectra (15–500  $m/z$ ) of cytosine, uracil, adenine, and guanine standards after derivatization by MTBSTFA.



**Fig. S3.** GC-MS chromatogram of nucleobases derivatized by MTBSTFA. It is important to note that adenine standard exhibits two characteristic chromatographic peaks observed only in a high-concentration standard solution. For identification of real samples, we only used the adenine peak with the retention time of 6.79 min.

