



FTIR and Raman Proficiency Program

Steven H. Hinrichs, M.D., Director, Nebraska Public Health Laboratory
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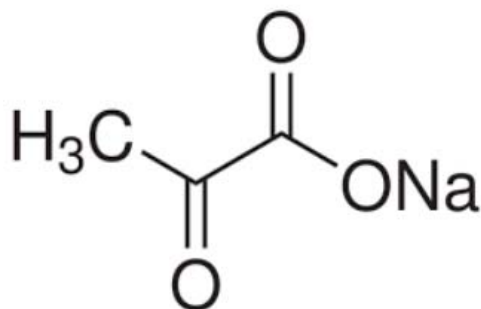
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May 23, 2018

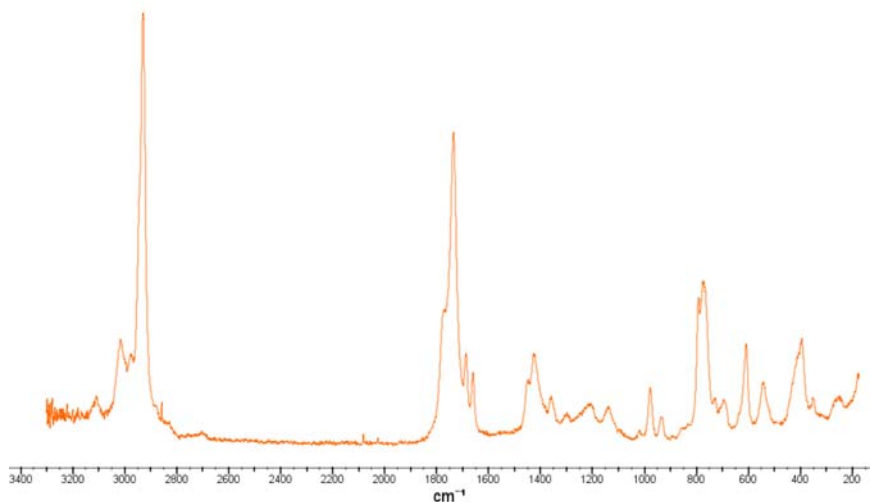
Results for April 2018 RAMAN Proficiency Testing Event

Dear Participant:

In the April 2018 Raman challenge three unknown powders were sent. All three were one component samples. **RAM18-1** was pyruvic acid, sodium salt, CAS # 127-17-3. This is a fine white powder that resembles talc powder. It is the simplest alpha-keto acid, and basically consists of a ketone and a carboxylic acid.



This is used for cell culture media. It is present in the Smiths Common Chemicals Raman library. Strong peaks at around 3000 and 1700. The majority of participants correctly identified this.



PREPARE • RESPOND • SUCCEED™

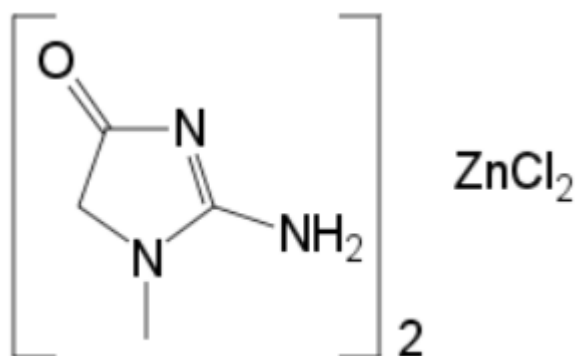


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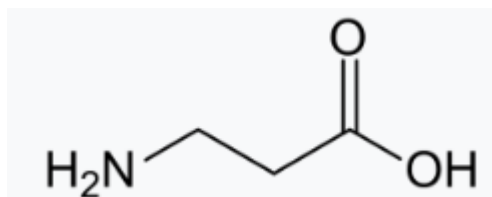
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RAM18-2 was creatinine zinc chloride CAS # 62708-52-5. It is a clumpy white powder that resembles powdered sugar. It can be used as an analytical standard for creatinine determination, though this use appears to be antiquated.



This compound was not listed in any libraries, but creatinine is. There were a lot of peaks present for creatinine, mainly the peaks around 650, but no participant matched creatinine. Our instrument did not match either, so the presence of ZnCl₂ appears to really affect the ability to identify creatinine. This was a non-graded sample.

RAM18-3 was beta-alanine, CAS # 107-95-9. This is a crystalline white powder. It is a beta amino acid of alanine, an alpha amino acid. It is found in many weightlifting supplements, such as Black Betas, but its safety is not established yet. It works primarily by increasing the concentration of carnosine in muscles.

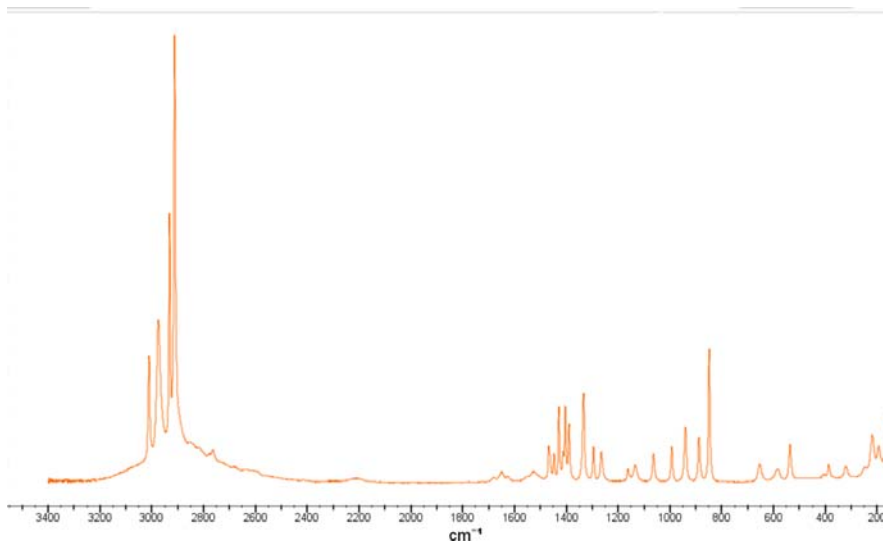




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This specific compound was not in our Smiths Common Chemicals Raman library, but D- and L-alanine both were, which the first hits on our instrument were, but not good quality. All participants correctly identified this.

Individual results can be seen by visiting NPHL.org and logging into the FTIR/Raman participant portal. Individual result reports are no longer sent out. As always, please contact us with any questions you might have. This report will be posted on the FTIR/Raman page on nphl.org.

Sincerely,

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