

THE INFRARED SPECTRA OF THE FORMATE ANION AND OF t-HOCO TRAPPED IN SOLID NEON

DANIEL FORNEY, WARREN E. THOMPSON, AND MARILYN E. JACOX, *Optical Technology Division, National Institute of Standards and Technology, Gaithersburg, MD 20899-8441.*

The formate anion, HCO_2^- , has been trapped in solid neon by the codeposition of either a Ne:HCOOH or a Ne:H₂:CO₂ sample with a beam of neon atoms that have been excited in a microwave discharge. Prominent infrared absorptions not only of the formate anion but also of t-HOCO appear in both systems. Detailed isotopic substitution studies and the results of *ab initio* and density functional calculations support both identifications.