

THE CURIOUS(ER) CASE OF MASS 63: A THRILLING AND CONFUSING SEQUEL

CHRISTOPHER C BLACKSTONE, ANDREI SANOV, *Chemistry and Biochemistry, University of Arizona, Tucson, AZ, USA.*

Produced in a reaction or interaction either between methanol and methoxide or methoxide and oxygen, an unexpected and difficult to identify species has appeared in our mass spectrum. We seek to narrow its molecular formula to one of CH_3O_3 or $\text{C}_2\text{H}_7\text{O}_2$ using fully deuterated methanol as a precursor to separate the two formulas by mass, and to further use the photoelectron spectrum and a fragmentation spectrum of the fully deuterated species to most accurately determine the molecular identity and completely assign its photoelectron spectrum.