

Abstract Submitted  
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**Formation of finite layer MoS<sub>2</sub> using ultrasonic agitation** TIM KIDD, RUI HE, ERIC CLAUSEN, University of Northern Iowa — We have developed a process in which finite layer MoS<sub>2</sub> can be produced using ultrasonic agitation. The material shows optical properties consistent with an average layer thickness of less than five layers. The process uses ultrasonic agitation of MoS<sub>2</sub> in a suspension using isopropanol. Interestingly, side products involving carbon nanoparticles are also produced. These side products are quite small, and become the dominant material when using a centrifuge to separate out the smallest particles. These carbon nanoparticle side products appear to include nanometer scale particles as well as materials with sizes consistent with fullerenes and graphene with nanoscale lateral dimensions. This process appears to represent a novel method for producing finite layer MoS<sub>2</sub> and some forms of carbon nanoparticles using a relatively simple method.

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