

Supporting Information

Large-scale Production of Two-Dimensional Nanosheets

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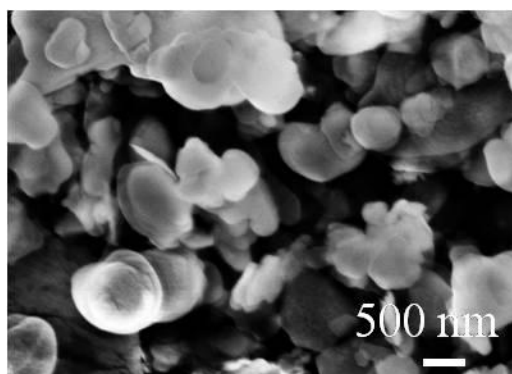


Fig. S1 Typical SEM image of the initial h-BN particles.

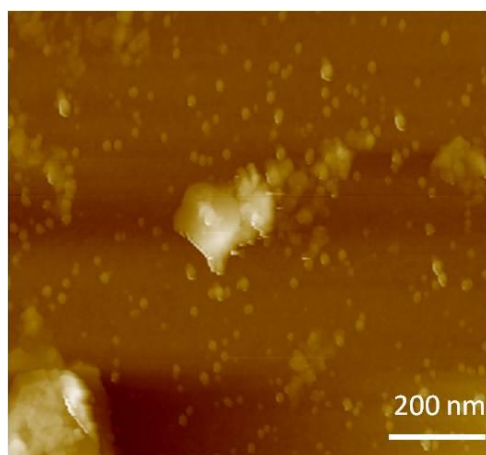


Fig. S2. AFM of exfoliated h-BN by combined ball milling and sonication. The size of BN nanosheets is from 10 nm to 500 nm and the thickness is from 1.2 nm to 8 nm.

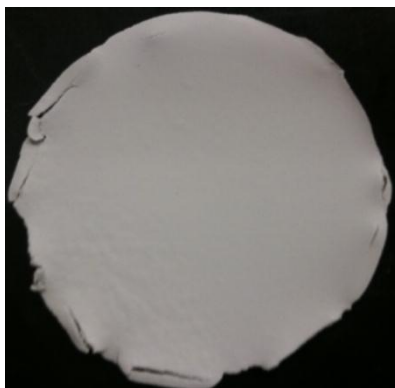


Fig. S3 A typical photograph of a thin h-BN film by vacuum filtration.

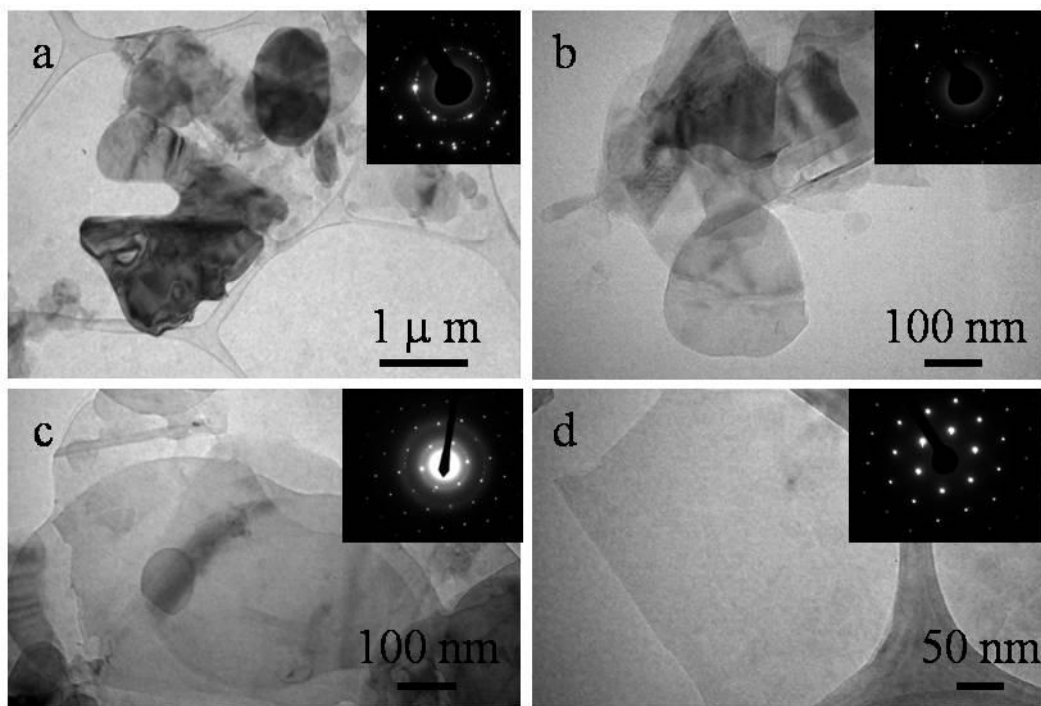


Fig. S4 Typical TEM images of exfoliated h-BN nanosheets by low-energy ball milling only for various durations in SDS/water solution and their corresponding SAED patterns. (a) 1 hr, (b) 3 hrs, (c) 6 hrs, (d) 12 hrs. We hardly saw the difference between the samples by 12 hrs milling and 24 hrs milling (data not shown here). According to this, the most efficient exfoliation happens in the first 12 hrs of low-energy ball milling.

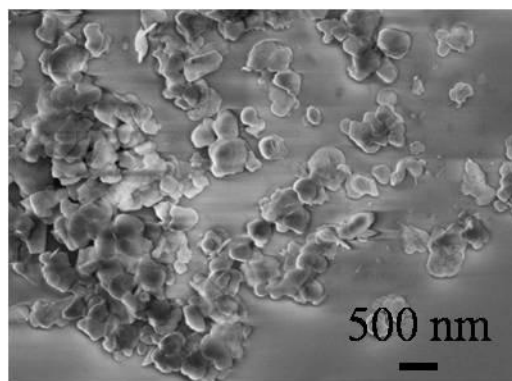


Fig. S5 Typical SEM image of h-BN nanosheets exfoliated by 12 hrs ball milling. Notably, not only the h-BN particle thicknesses are reduced, but also the lateral sizes of the h-BN flakes become smaller, compared to pristine particles (Figure s1a), which is consistent with the TEM results.

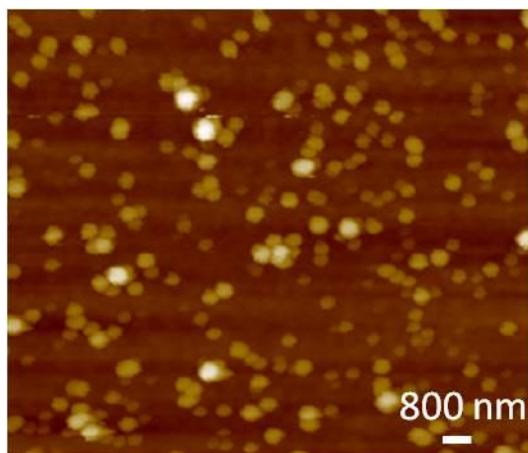


Fig. S6 Typical AFM of MoS₂ nanosheets exfoliated by combined ball milling and sonication. The size of MoS₂ nanosheets is from 50 nm to 700 nm and the thickness is from 1.2 nm to 8 nm.