

Supporting Information

Large-quantity and continuous preparation of two-dimensional nanosheets

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S1. SEM images of large quantities of exfoliated layered nanosheets

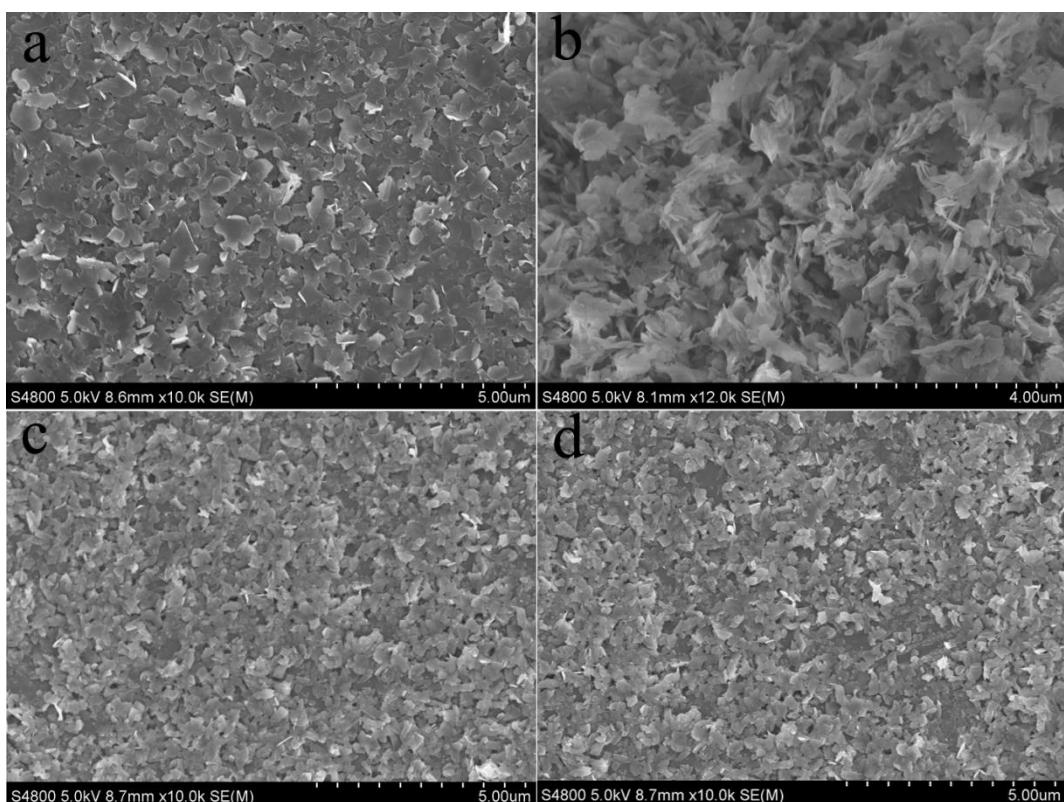


Figure S1. SEM images of large quantities of exfoliated layered nanosheets (a) graphene, (b) h-BN, (c) MoS₂, and (d) WS₂.

Figure S1 show that large quantities of uniform nanosheets were obtained by this method.

S2. SEM images of raw materials

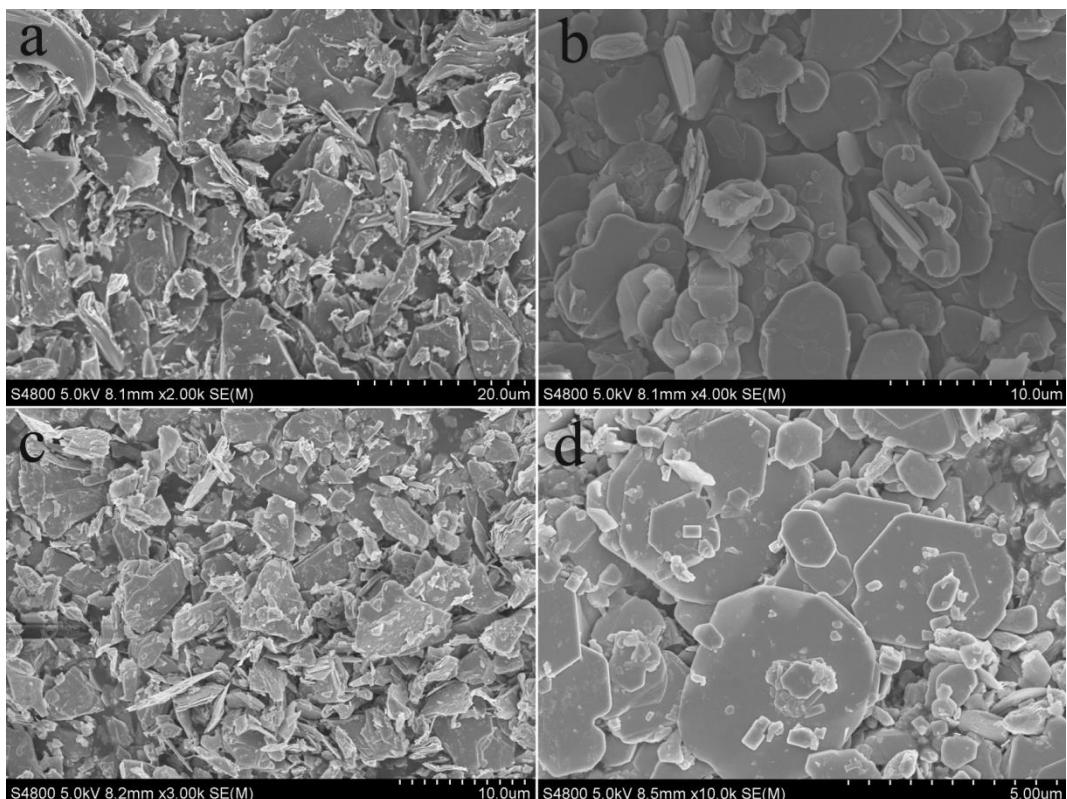


Figure S2. SEM images of raw materials (a) graphite, (b) h-BN, (c) MoS₂, and (d) WS₂ powders.

Compared Figure S1 with Figure S2, we can see clearly that a lot of two-dimensional materials were stripped off and became nanosheets.

S3. Experiment instrument

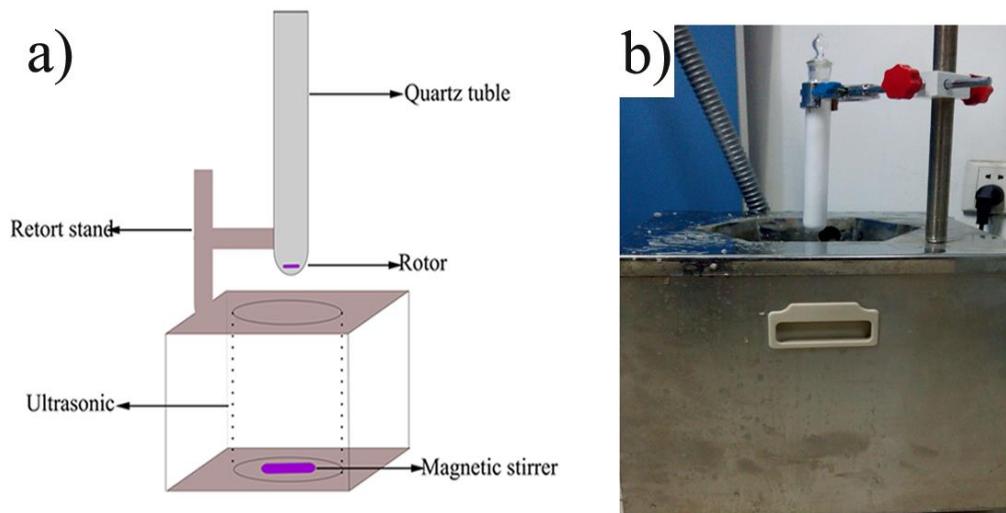


Figure S3. (a) Designed experiment instrument drawing. (b) Experimental instrument.

Designed experiment instrument drawing and experimental instrument were shown in Figure S3. In the experiments, a right amount of raw layered materials is put in aqueous solution, electromagnetic stirring and ultrasonic processing. After a period of time later, large quantities of two-dimensional materials were obtained and then saved in aqueous solution (Figure 1j). Figure 1h also shows that large quantities of uniform of nanosheets were obtained by this method.

S4. Specific preparation time of exfoliation of 2D materials

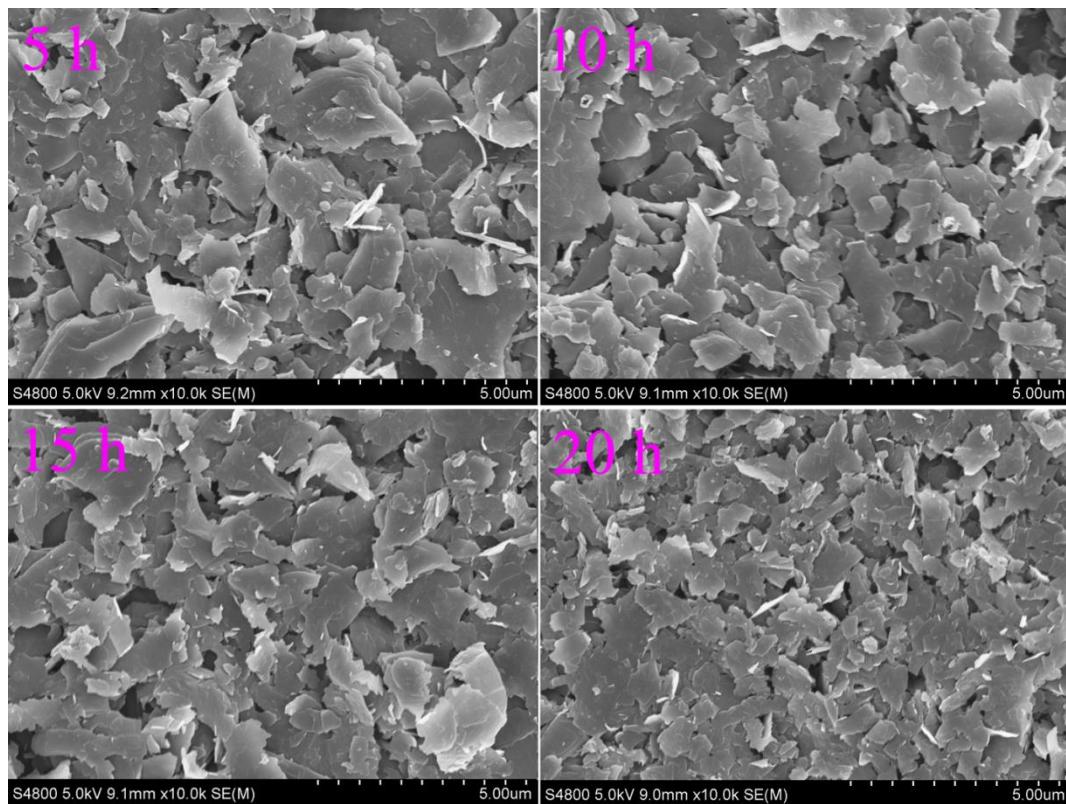


Figure S4. Specific preparation time of exfoliation of graphite.

Figure S4 show that graphite can be separated in 10-20 h. The sizes of nanosheets are diminishing after 10 hours.

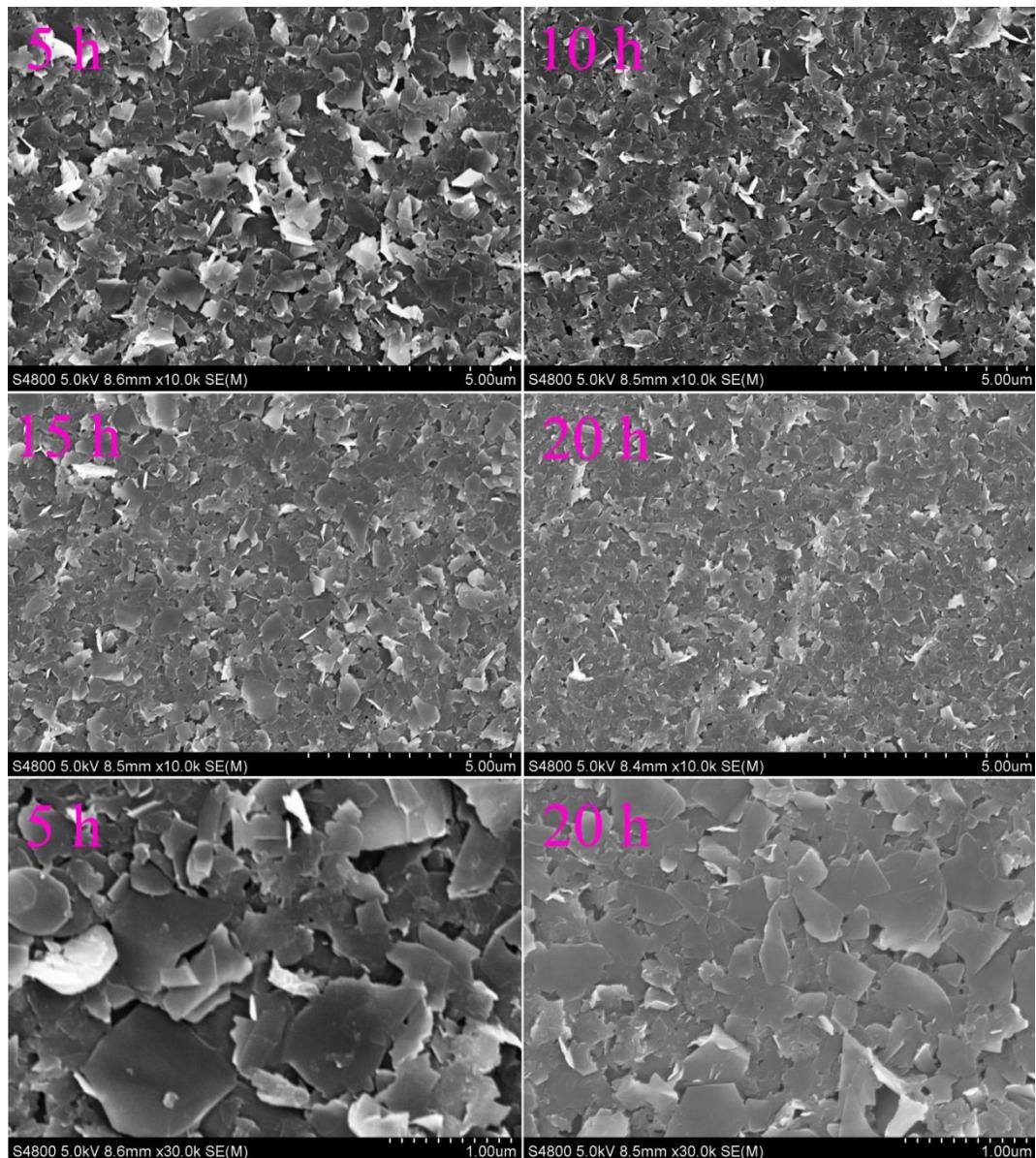


Figure S5. Specific preparation time of exfoliation of h-BN.

H-BN can also be separated after 10 hours by this method.

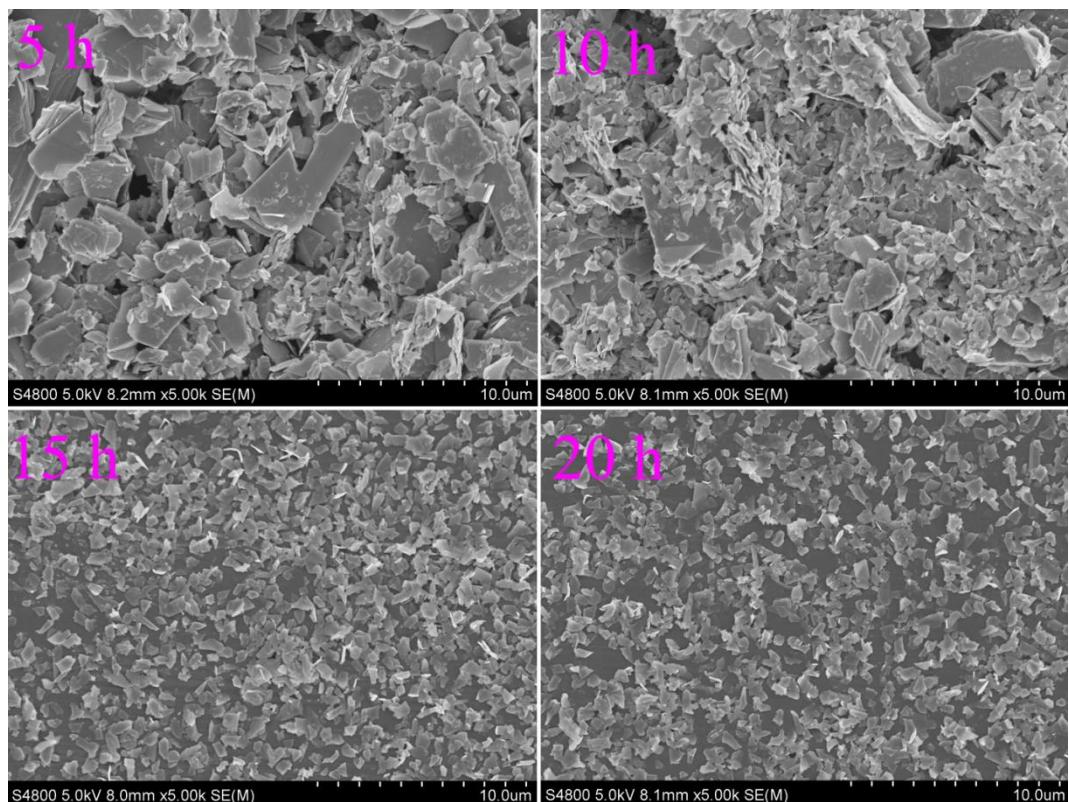


Figure S6. Specific preparation time of exfoliation of MoS₂.

Figure S6 show that MoS₂ can be separated in 15-20 h. The obtained nanosheets are very uniformity.

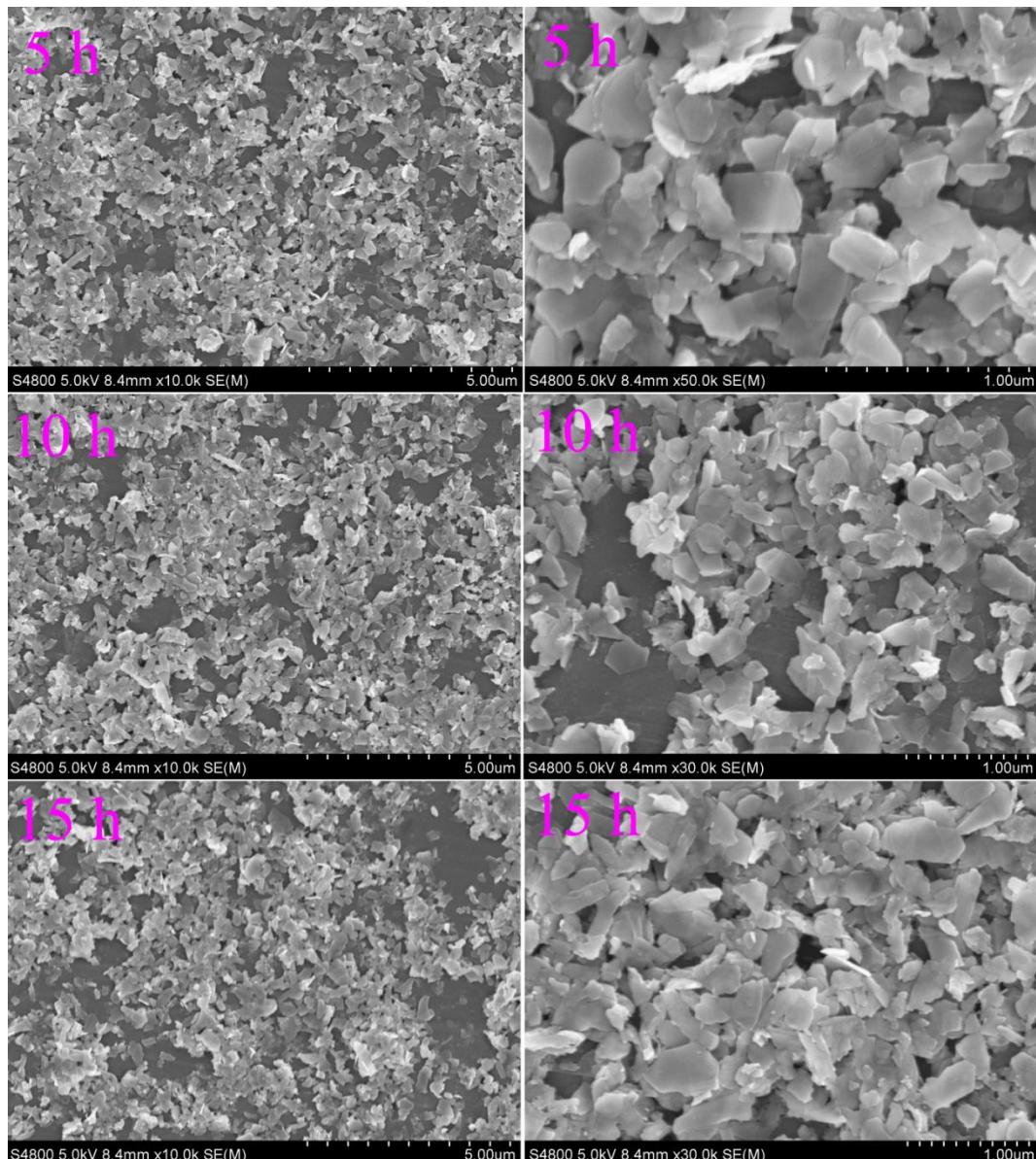


Figure S7. Specific preparation time of exfoliation of WS₂.

Figure S7 show that WS₂ can be separated just in 5 h by this method. The obtained nanosheets are also very uniformity. And the sizes of nanosheets are diminishing after 5 hours.

S5 Solvents influence under the same exfoliation time

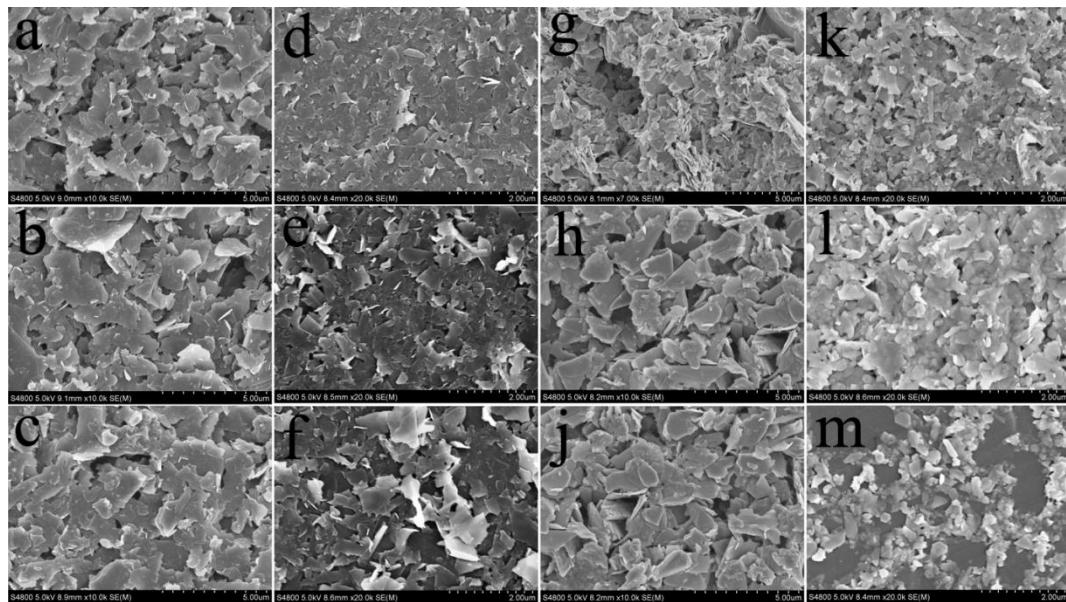


Figure S8. Samples were peeled off in different solvents under the same exfoliation time (24 h). Samples: Graphite (a, b, c), h-BN (d, e, f), MoS₂ (g, h, j), WS₂ (k, l, m). Solvents: Ethanol (a, d, g, k), Dimethylformamide (DMF, b, e, h, l), Methylbenzene (c, f, j, m).

Figure S8 show that samples were peeled off in different solvents at the same exfoliation time (24 h). We can see that exfoliation effect of other large molecules of solvent (ethanol, DMF, Methylbenzene) is no better than that of water in Figure S8, because it is difficult for them to enter the molecular layer (Figure 1d).

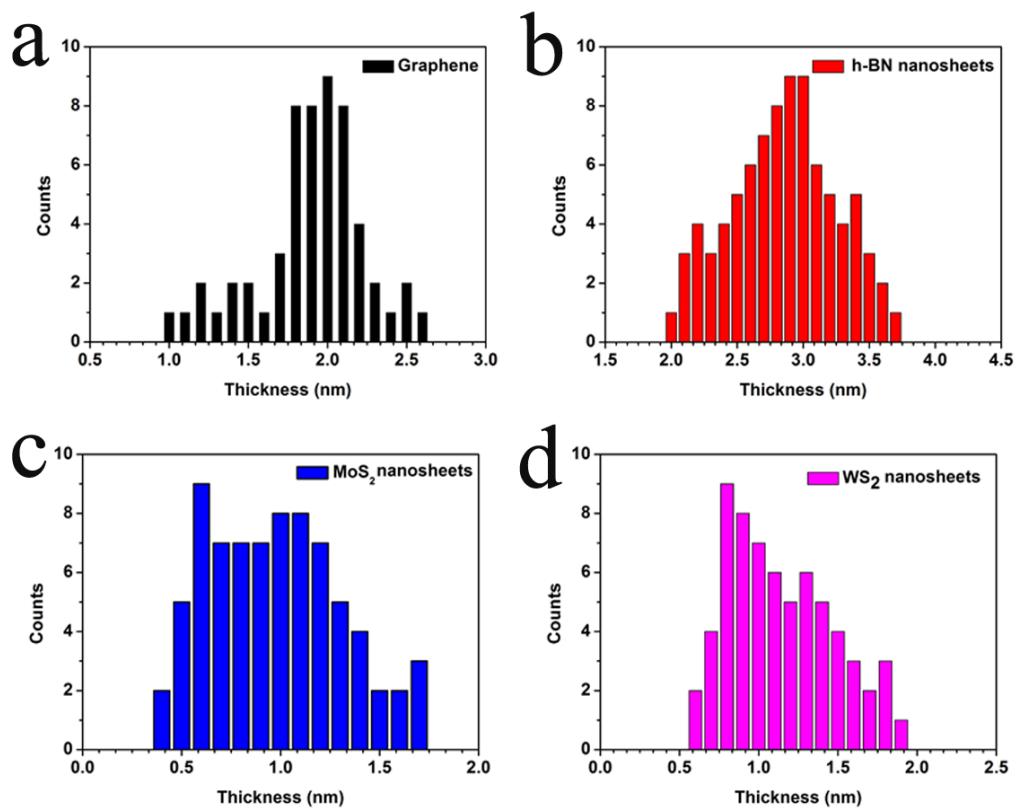


Figure S9. The distribution of the layer thickness based on a series of AFM images: (a) Graphene; (b) h-BN nanosheets; (c) MoS₂ nanosheets; (d) WS₂ nanosheets.