Electronic Supplementary Material (ESI) for Nanoscale.

Using Light, X-rays and Electrons for Evaluation of the Nanostructure of Layered Materials

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SUPPORTING INFORMATION

Further details to the high energy ball-milling process

In previous studies using the same SPEX 8000M mill alumina contamination of oxide samples of up to about 1 weight percent was observed, depending on the milling time.[1 – 3] Influences of the alumina contamination on various properties were, however, not detectable, neither as (photo)catalytic [2] nor as diffusive properties [2,3] were concerned.

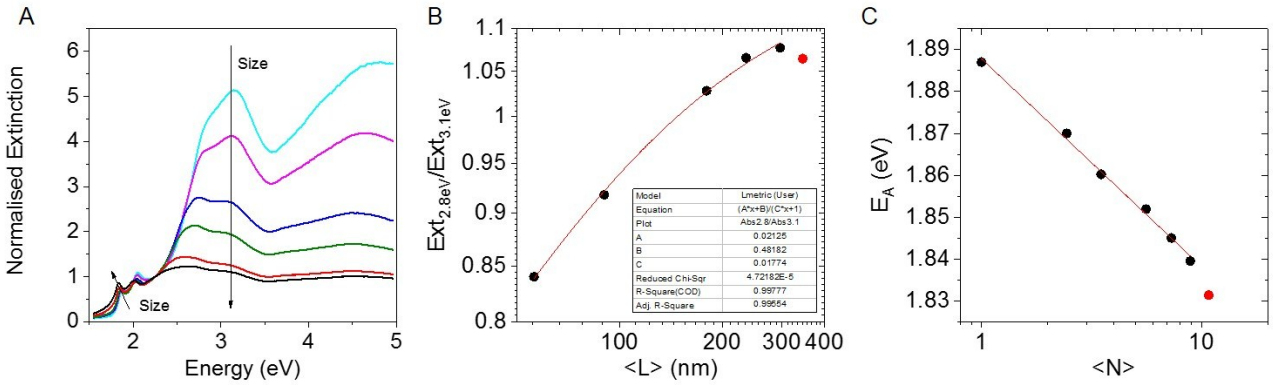

Figure S1: UV Vis spectra MoS_2 from liquid exfoliation: Similar changes in spectral shape; knowledge of <L> and <N> (determined by microscopy stats) gives metric equations to relate spectral changes to nanosheet dimensions. Here: Peak intensity ratio adjusted from original publication to a range applicable to ball milled samples

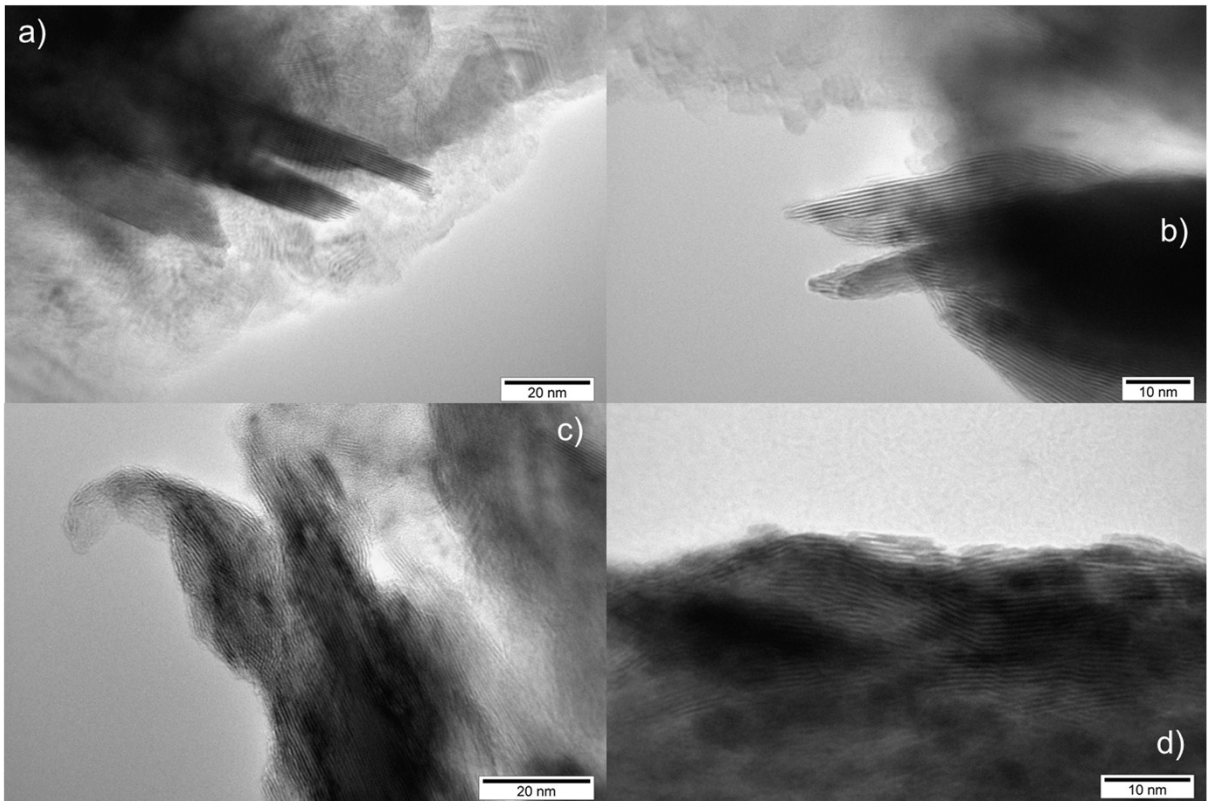

Figure S2. TEM micrographs of a) bm1, b) bm2, c) bm4 and d) bm8.

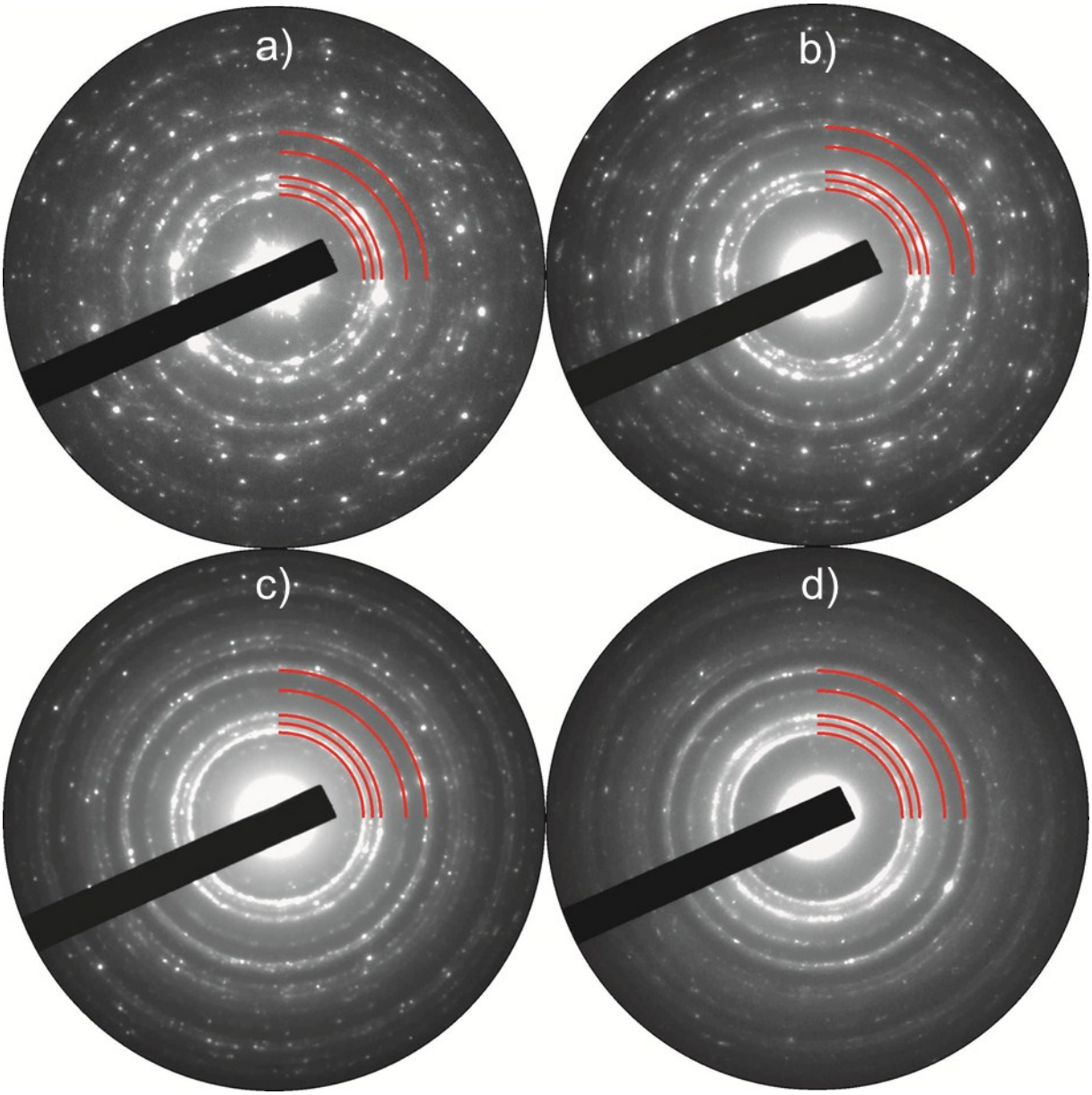

Figure S3. SAED patterns of a) bm1, b) bm2, c) bm4 and d) bm8. The red quarter-circles represents the lattice planes (100), (102), (103) and (105) from inside to outside.

References

1 R. Amade, P. Heitjans, S. Indris, M. Finger, A. Haeger, D. Hesse, *J. Photochem. Photobio.* A 2009, **207**, 231-235.

2 P. Heitjans, M. Masoud, A. Feldhoff, M. Wilkening, *Faraday Discuss.* 2007,**134**, 67-82.

3 P. Heitjans, M. Masoud, A. Feldhoff, M. Wilkening, *Faraday Discuss.* 2007,**134**, 103-118.