

Supporting information

Remarkably high thermal-driven MoS₂ grain boundary migration mobility and its implications on defect healing

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S1. Movie showing the evolution of the MoS₂ film with S4|6 and S6|8 GBs at a temperature of $T = 800$ K.

S2. Movie showing the evolution of the MoS₂ film with multiple S4|6 and S6|8 GBs upon thermal equilibration at a temperature of $T = 1000$ K.

S3. Movie showing the evolution of the MoS₂ film with S4|6, Mo5|7 and S6|8 GBs upon thermal equilibration at a temperature of $T = 1000$ K.

S4. Mobility of Mo5|7, S4|6 and S6|8 GBs.

S4. Mobility of Mo5|7, S4|6 and S6|8 GBs

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The mobility of Mo5|7 GB has also been explored. A film with Mo5|7, S4|6 and S6|8 GBs was simulated under annealing temperature $T=1000$ K. The snapshots of GB migration process are displayed in Figure S1 and the full migration process is presented in the Supporting Information Video 3.

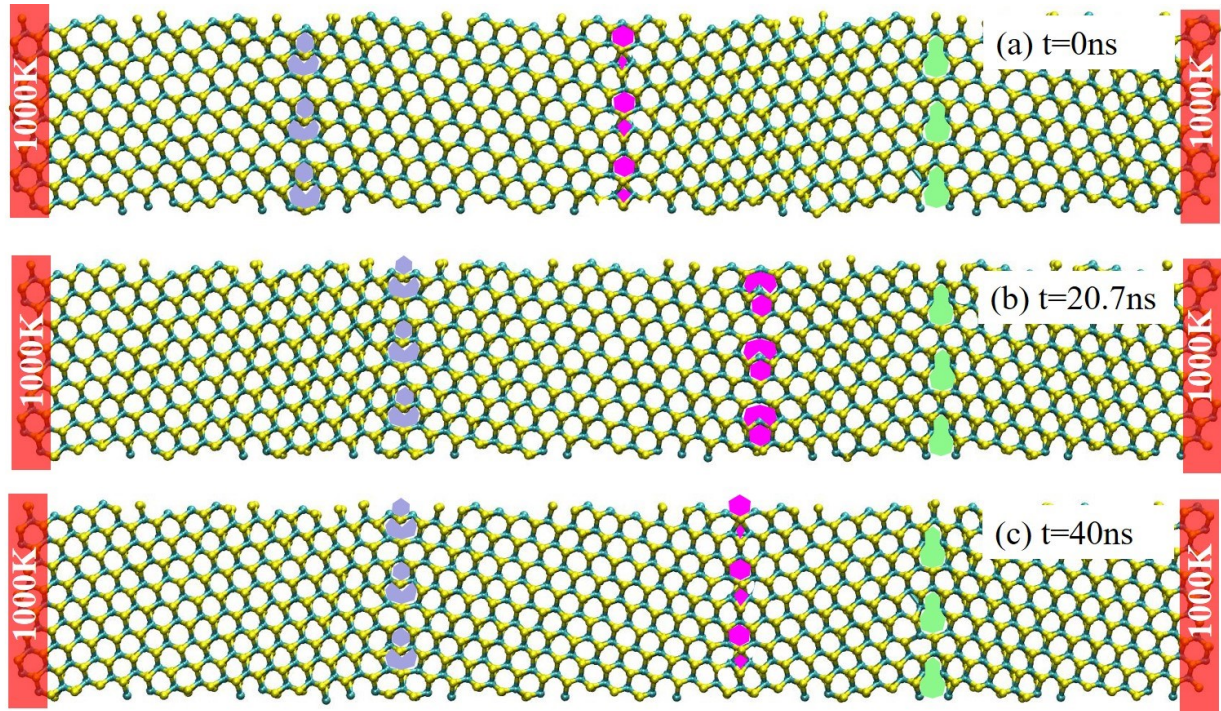


Figure S1. Snapshots of the migration of S4|6, S6|8 and Mo5|7 GBs in the MoS₂ film upon thermal equilibration at a temperature of $T = 1000$ K.