

Supporting Information

Superlubrication properties of ultra-nanocrystalline diamond film sliding against the zirconia ball

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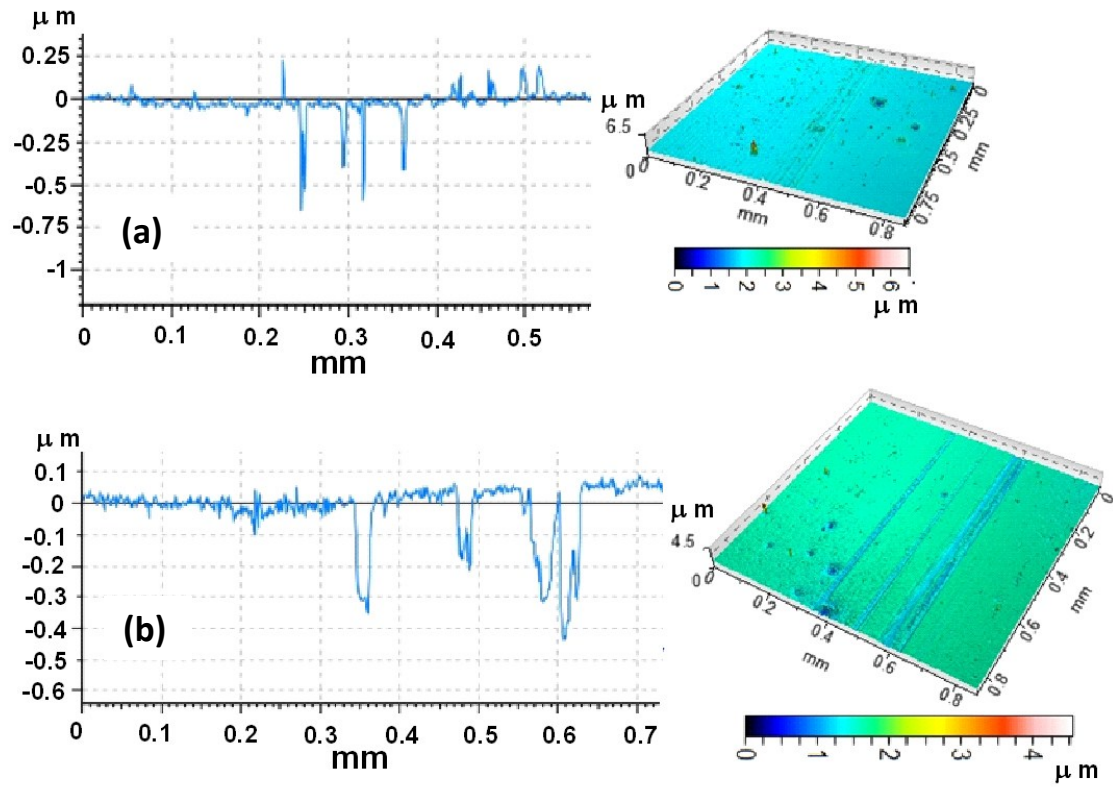


Figure SI-1. 3D images obtained from the wear track of UNCD(Ar) film formed at (a) 2 N (b) 6 N loads

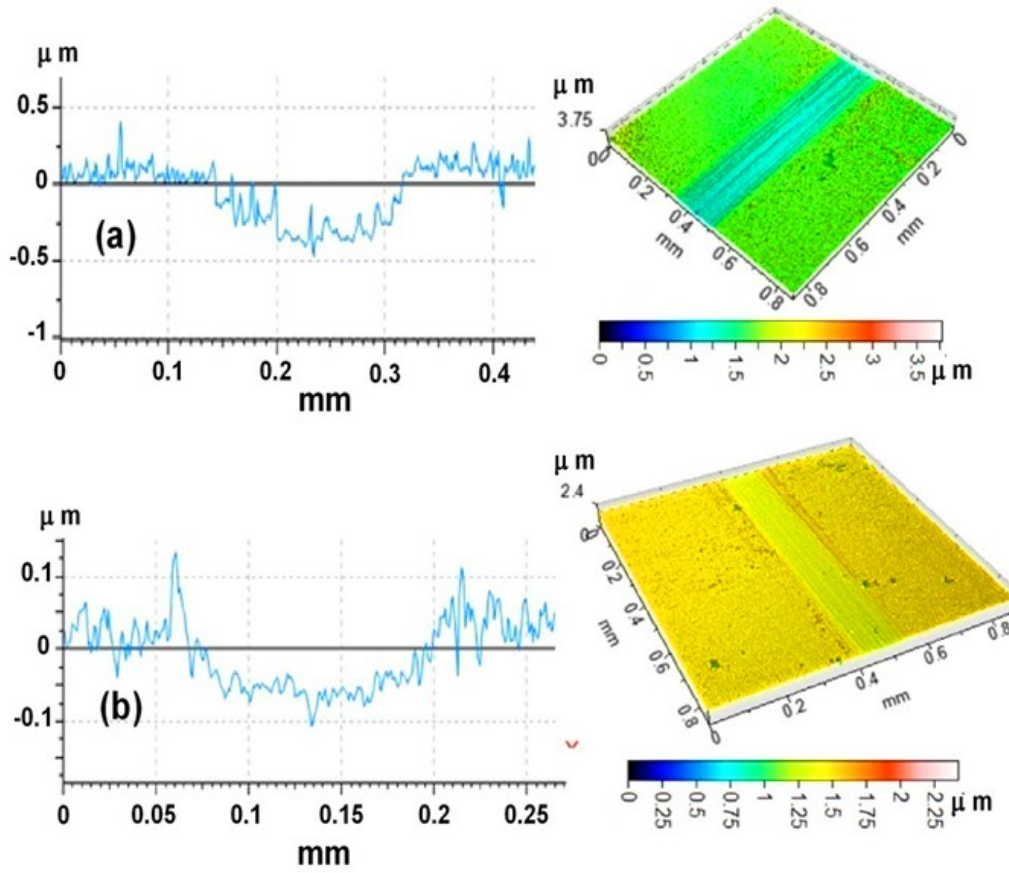


Figure SI-2. 3D images obtained from the wear track of UNCD(N) film formed at (a) 2 N (b) 6 N loads

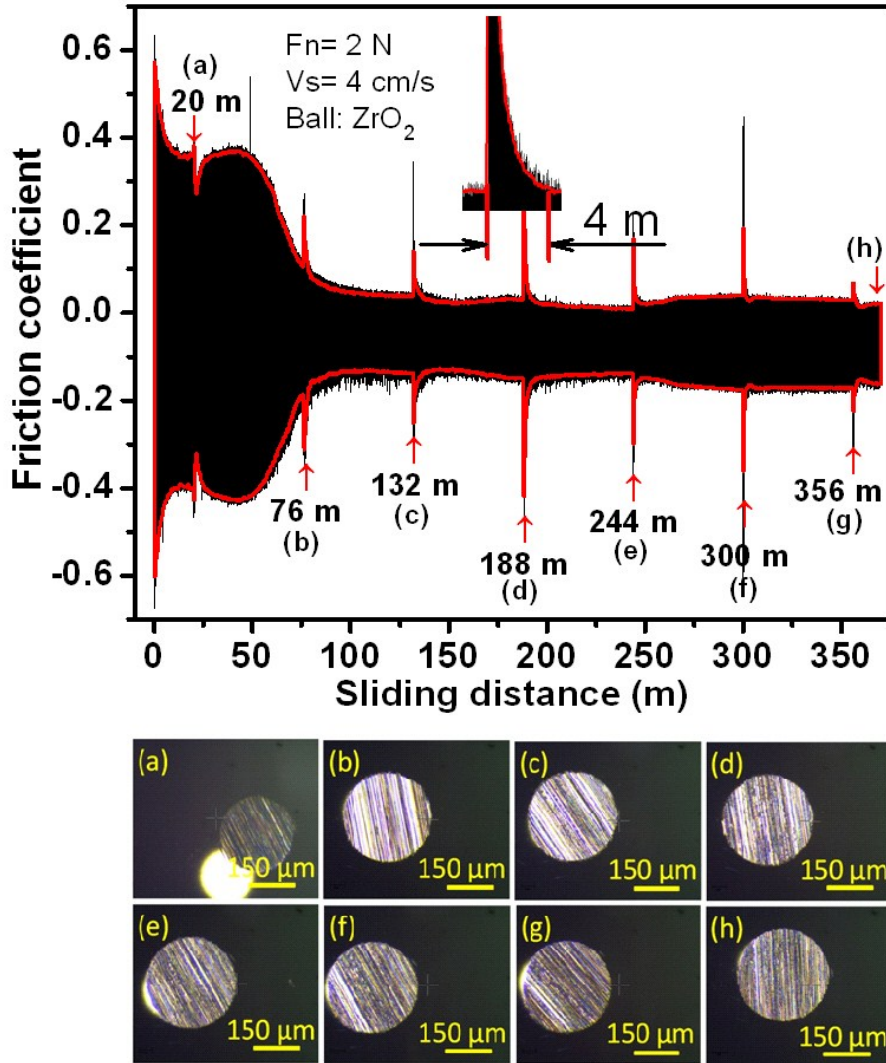


Figure SI-3. Friction coefficient and scar on ZrO_2 ball sliding against UNCD(Ar) film while pausing the test periodically for approximately 2 minutes without changing the contact position of ball

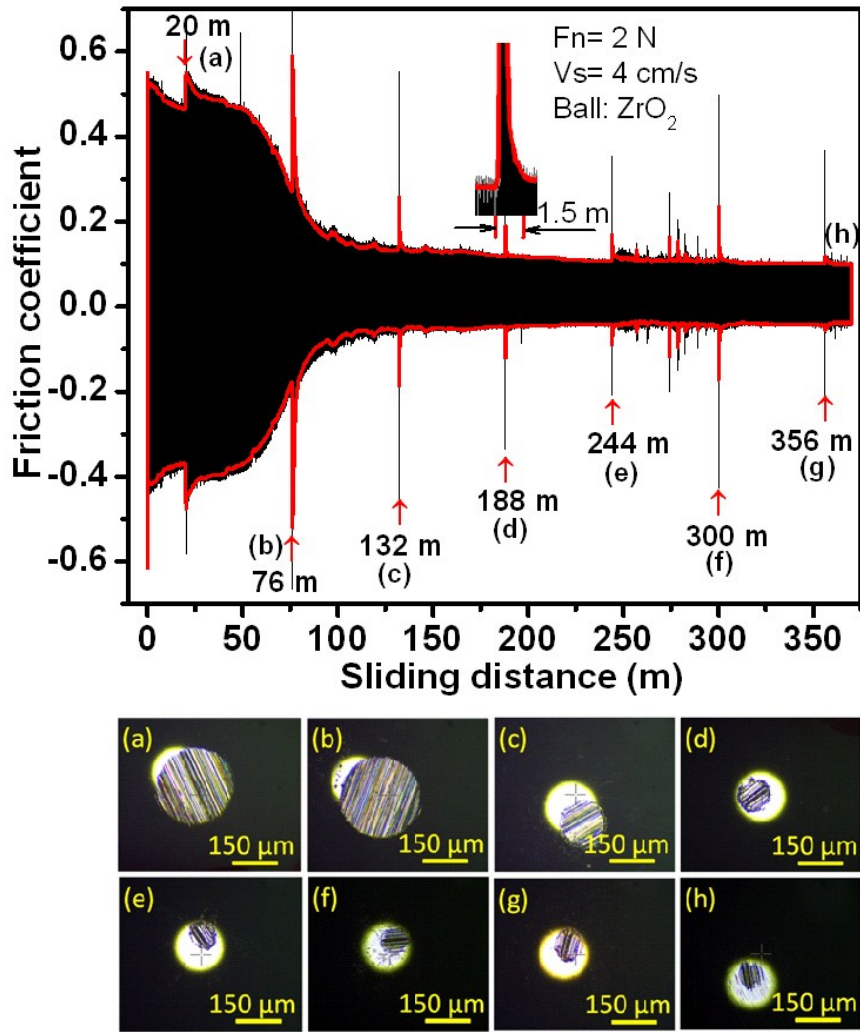


Figure SI-4. Friction coefficient and wear scar on ZrO_2 ball sliding against UNCD(Ar) film while periodically fixing the new ball contact position

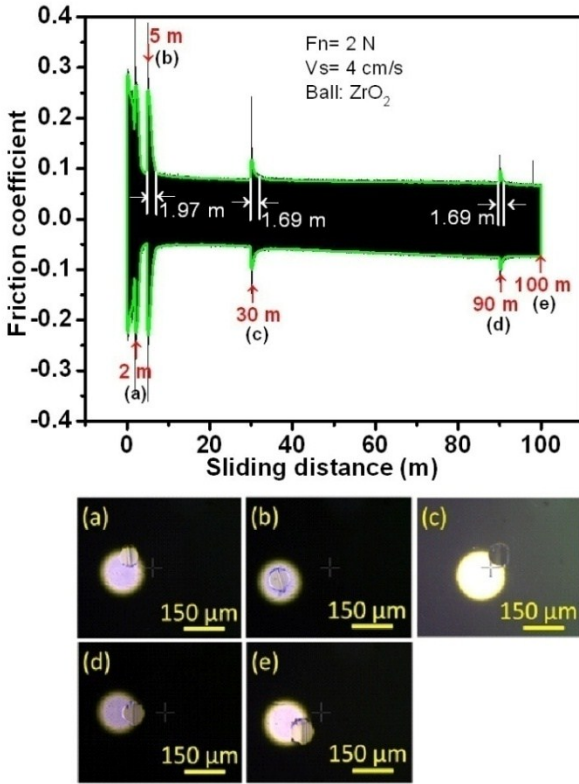


Figure SI-5. Friction coefficient and scar on ZrO_2 ball sliding against UNCD(N) film while pausing the test periodically for approximately 2 minutes without changing the contact position of ball

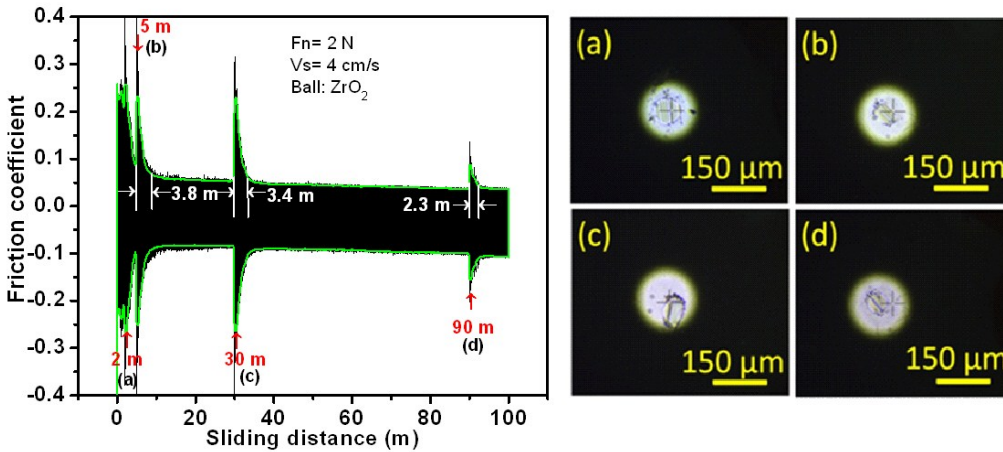


Figure SI-6. Friction coefficient and wear scar on ZrO_2 ball sliding against UNCD(N) film while periodically fixing the new ball contact position