**Retraction: Pentadiamond: A Hard Carbon Allotrope of a Pentagonal
Network of sp^2 and sp^3 C Atoms
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We retract this manuscript because of calculational errors on the mechanical properties of pentadiamond. Based on feedback from several groups (see below), we carefully rechecked the mechanical properties and found serious mistakes in the optimized structure of pentadiamond under mechanical deformation. Our new calculations reveal that pentadiamond is not a hard material and has a positive Poisson ratio. For your convenience, we list newly obtained data: 1. Elastic constants are $c_{11} = 645$ GPa, $c_{12} = 88$ GPa, and $c_{44} = 194$ GPa. 2. Bulk modulus = 274 GPa, averaged Young's modulus = 522 GPa, averaged shear modulus = 220 GPa, and averaged Poisson ratio = 0.18.

We regret these errors, which were caused by the total energy calculations of pentadiamond with an inappropriate choice of structural deformation.

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