nanomaterials

MDPI

Supplementary Materials

Erbium-Doped GQD-Embedded Coffee-Ground-Derived Porous Biochar for Highly Efficient Asymmetric Supercapacitor

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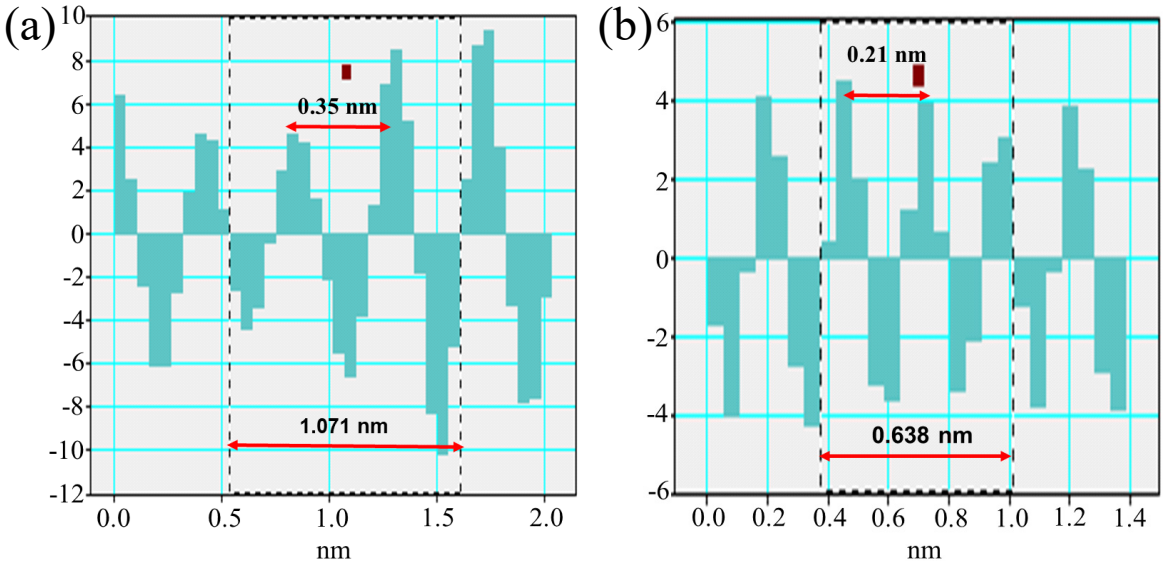

Figure S1. Lattice spacings of (**a**) pure HPB and (**b**) Er 10-GQD/HPB.

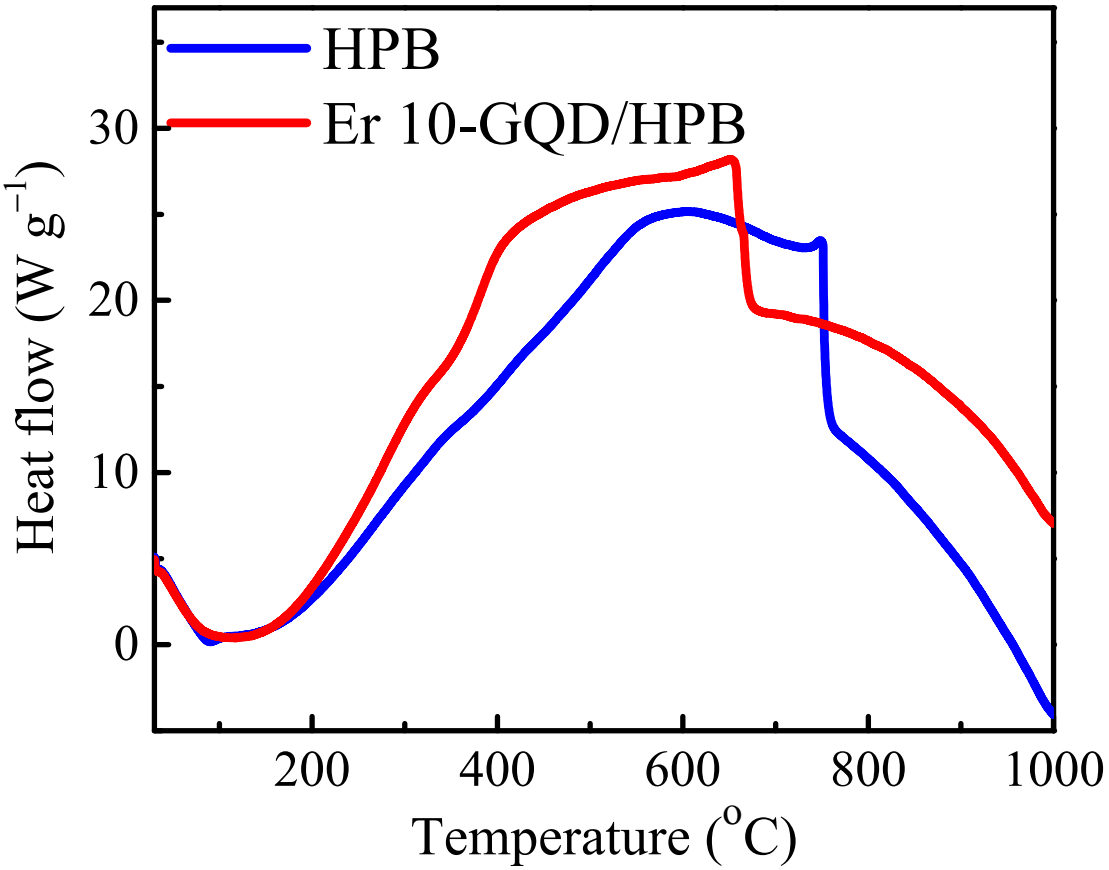

Figure S2. The differential scanning calorimetry (DSC) of HPB and Er 10-GQD/HPB.

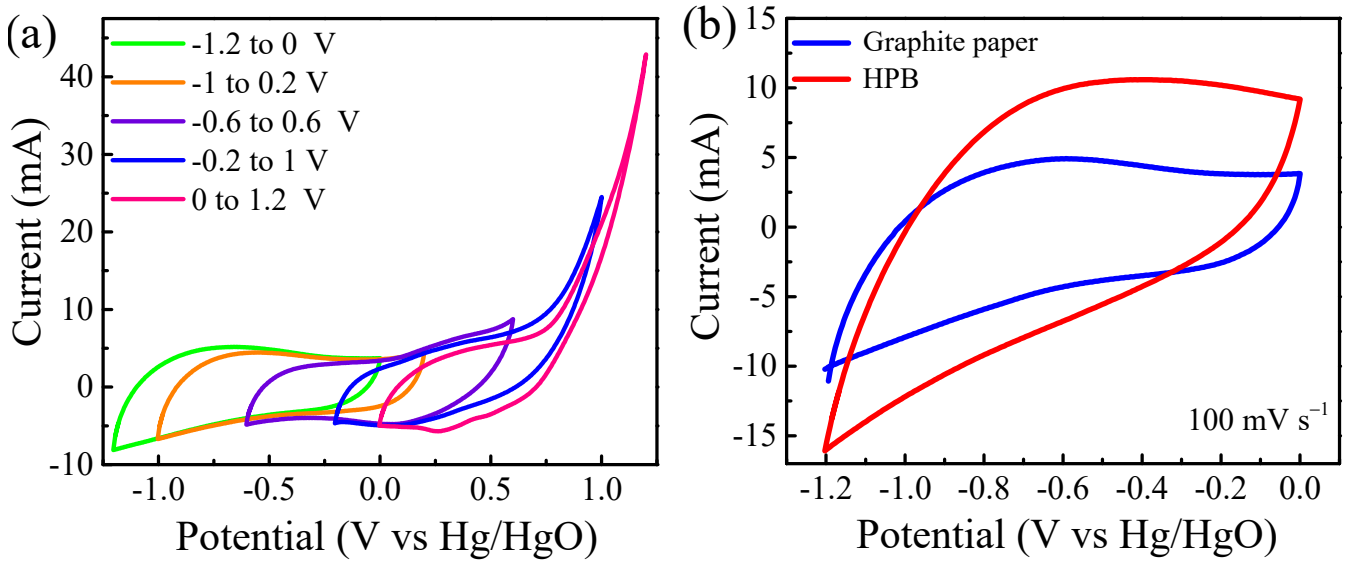

Figure S3. CV curves of (**a**) graphite paper and (**b**) HPB and graphite paper at 100 mV s^{-1} in different voltage windows of −1.2–1.0 V.

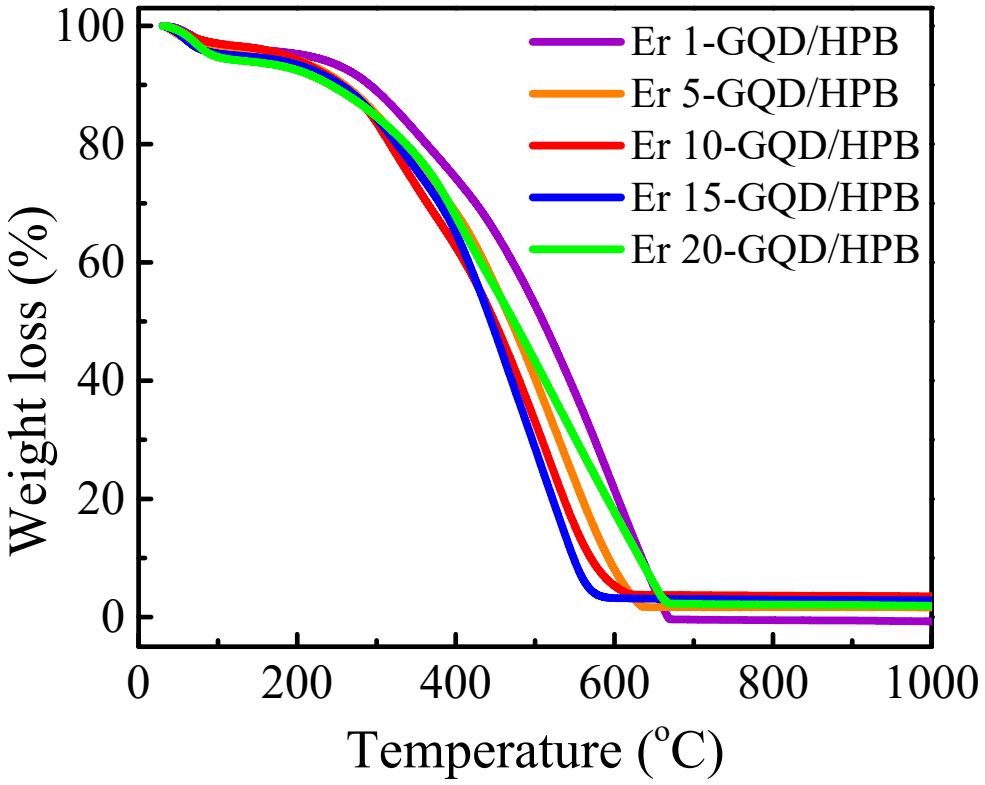

Figure S4. TGA curves of Er-GQD/HPB nanocomposite in various Er loading from 1 to 20 mM.

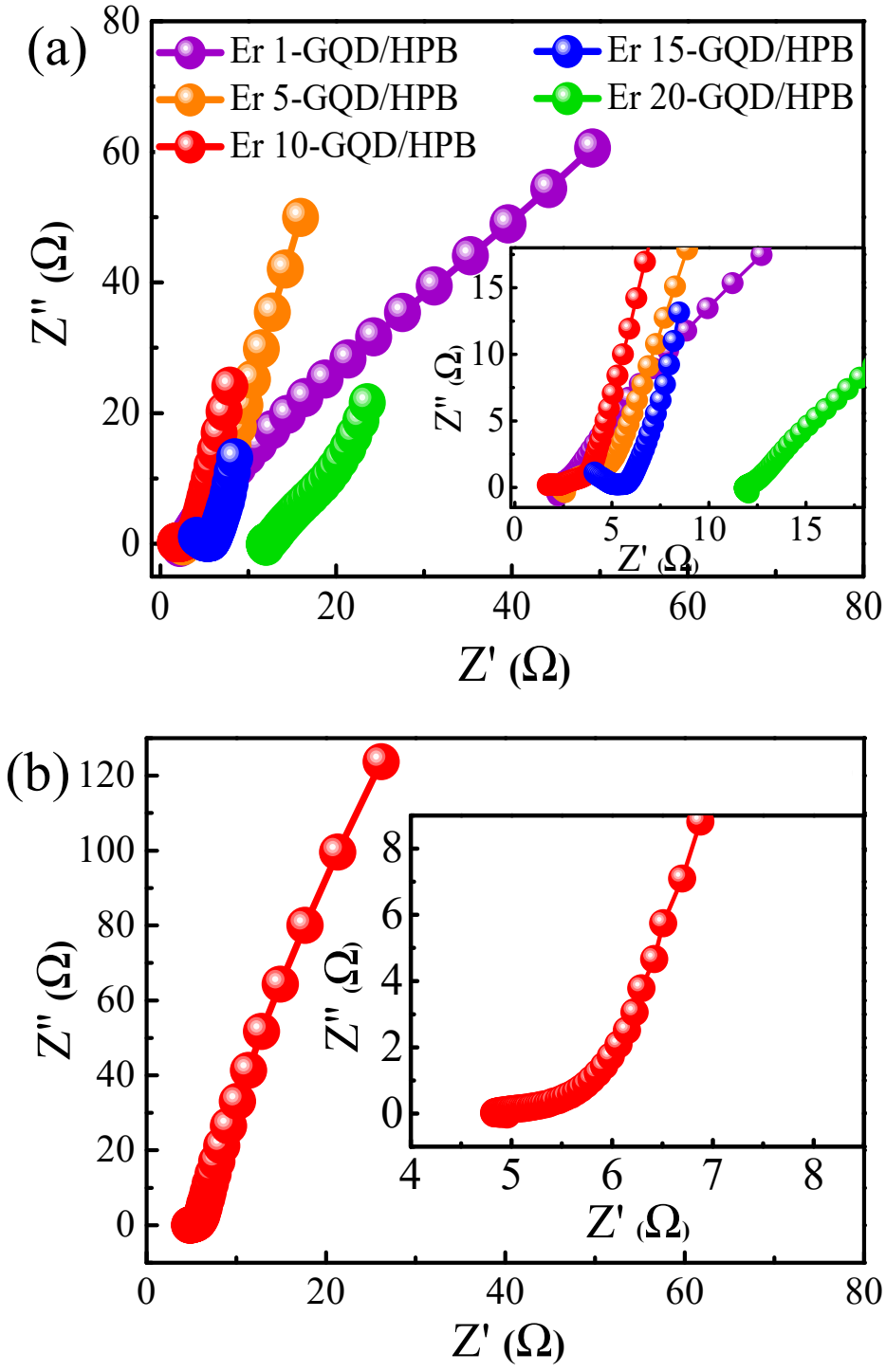

Figure S5. Nyquist plots of (**a**) Er-GQD/HPB at different Er loadings of 1–20 mM and (**b**) pure HPB.

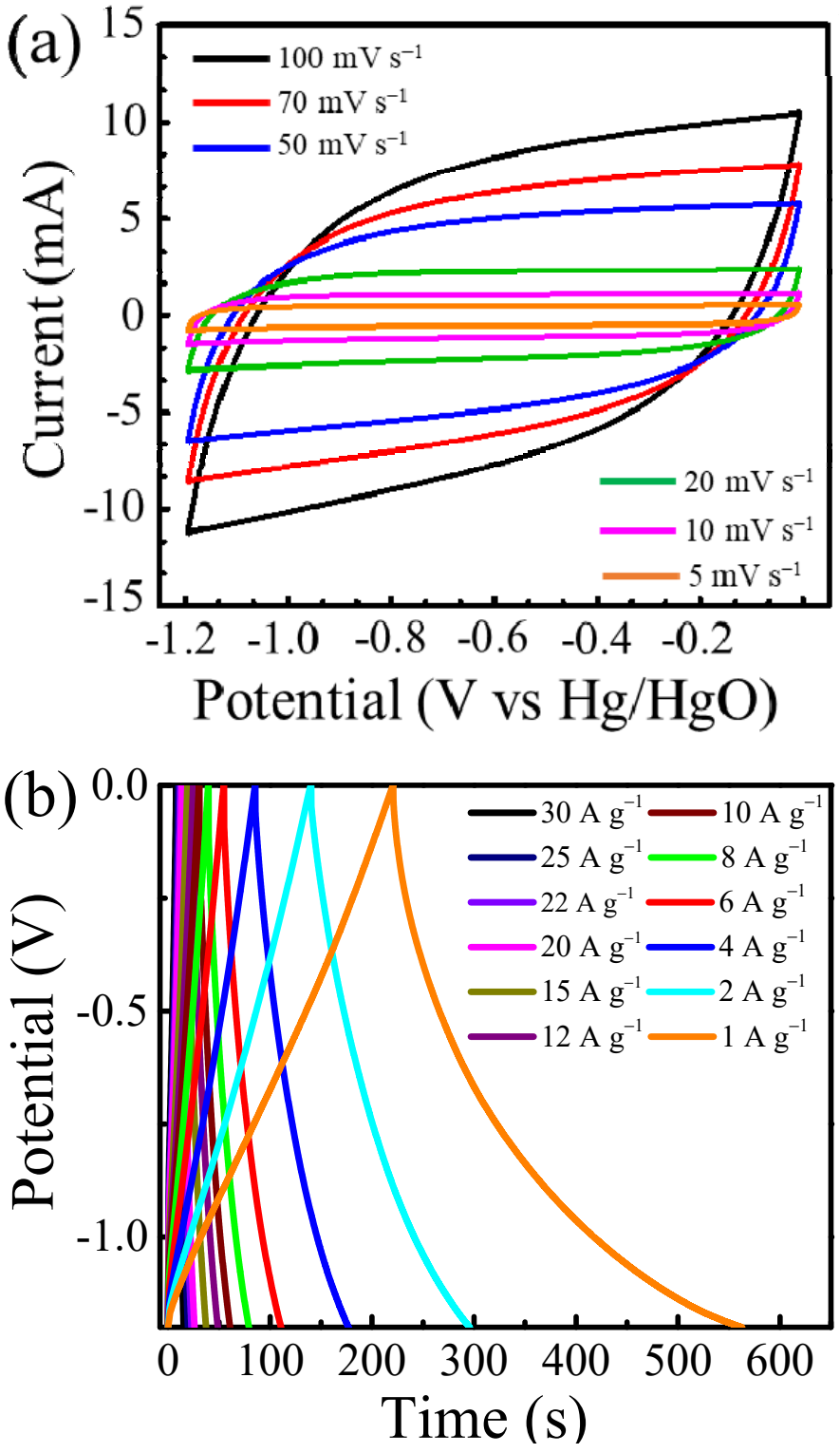

Figure S6. (**a**) CV curves and (**b**) GCD of pure HPB.

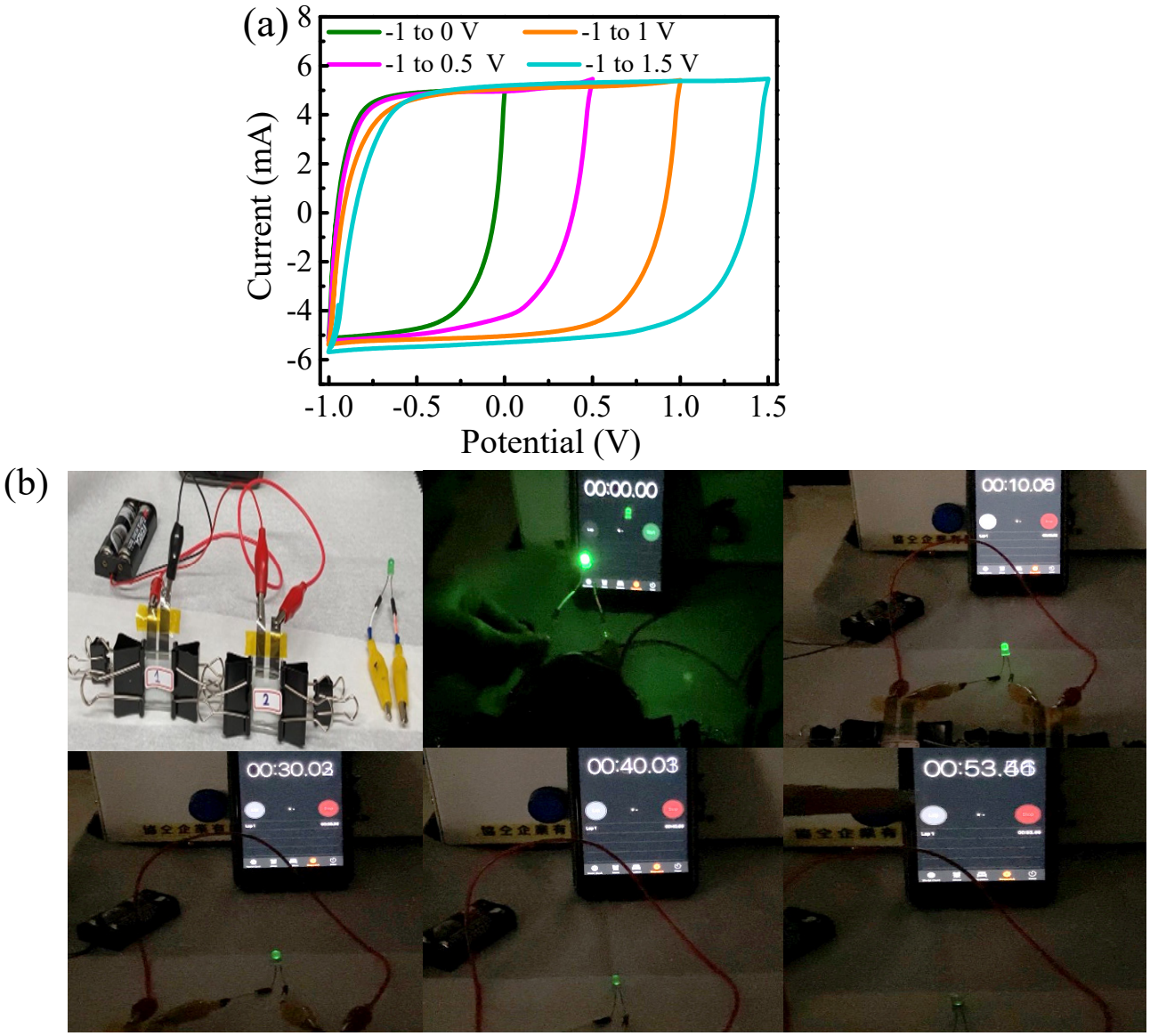

Figure S7. (**a**) CV curves of Er 10-GQD/HPB||HPB in different voltage windows at 100 mV s^{-1} and (**b**) demonstration of lighting of LED powered by Er 10-GQD/HPB||HPB.