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EFFECT OF FRACTURE ON ESR INTENSITY USING A LOW-VELOCITY ROTARY SHEAR APPARATUS SUPPLEMENTARY MATERIAL

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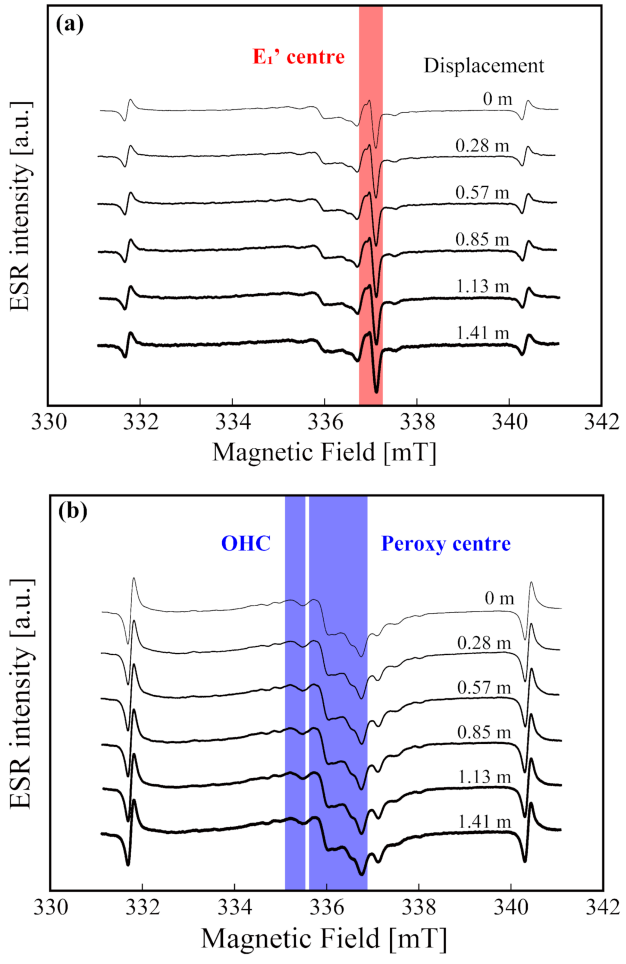

Fig. S1. *ESR spectra of simulated-quartz gouges with different displacements. (a) ESR spectra of E_1' centre at room temperature with a microwave power of 0.01 mW. (b) ESR spectra of OHC and peroxy centre at room temperature with a microwave power of 1 mW.*

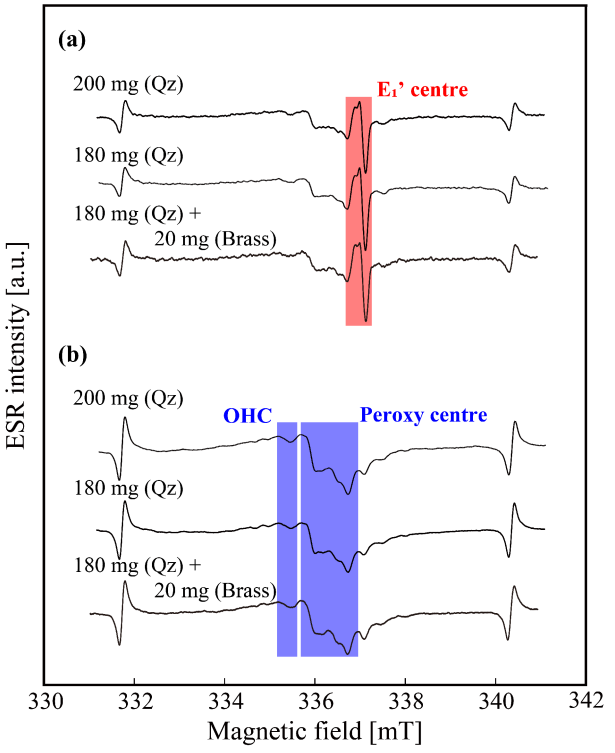

Fig. S2. *ESR spectra of quartz only sample (starting gouge, Qz) and mixed sample-1 (starting gouge and brass debris) at room temperature with microwave powers of (a) 0.01 mW and (b) 1 mW.*

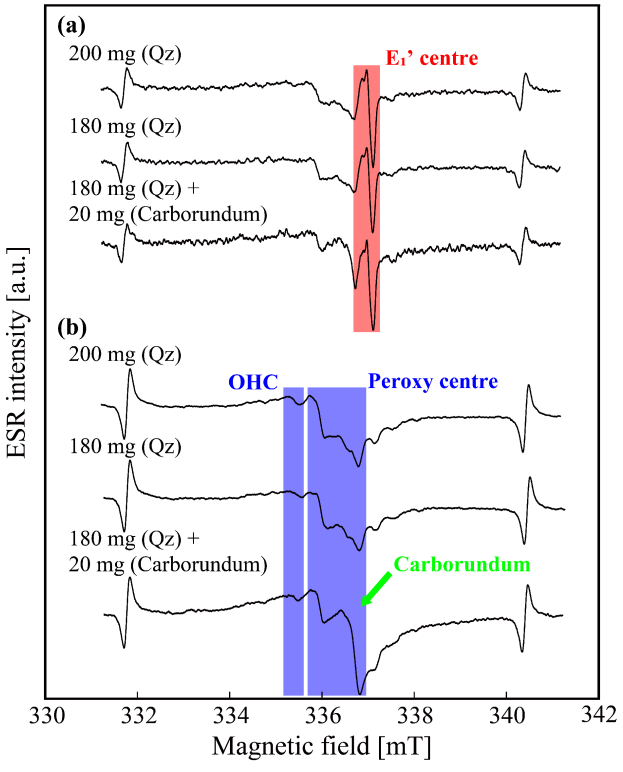

Fig. S3. *ESR spectra of quartz only sample (starting gouge, Qz) and mixed sample-2 (starting gouge and #320 carborundum) at room temperature with microwave powers of (a) 0.01 mW and (b) 1 mW. Green arrow indicates a occurrence of carborundum peak.*

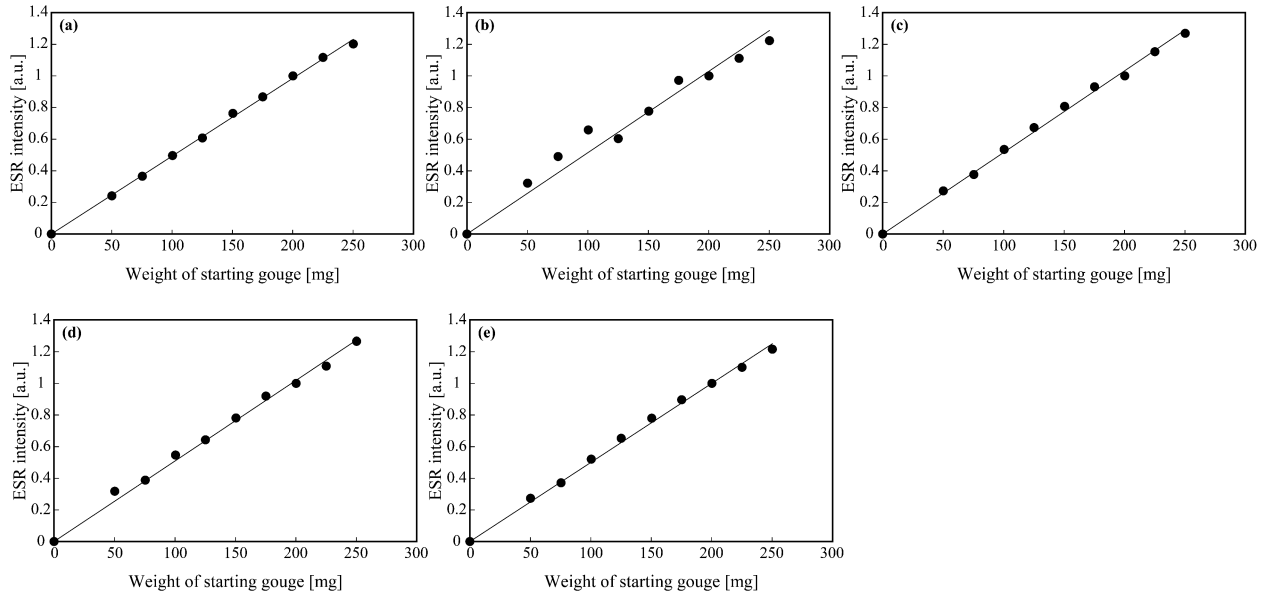

Fig. S4. *The ESR intensity of (a) E₁' centre, (b) OHC, (c) peroxy centre-A, (d) B, (e) C versus the weight of starting gouge. Lines indicate linear approximation curves passing through the origin calculated by least squares method.*

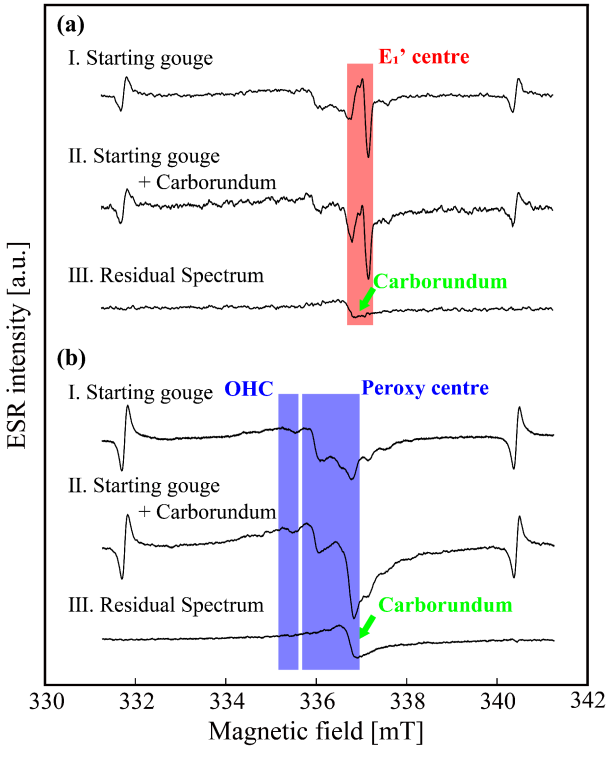

Fig. S5. *ESR spectra of quartz only sample (starting gouge, Qz) and mixed sample-2 (starting gouge and #320 carborundum) at room temperature with microwave powers of (a) 0.01 mW and (b) 1 mW. Green arrow indicates a occurrence of carborundum peak. ESR signal of #320 carborundum was found by subtracting an ESR spectrum (III) of starting gouge (I) from that of starting gouge with #320 carborundum (II).*