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# Cathodoluminescence spectra recorded from surfaces of solids with hydrous molecules

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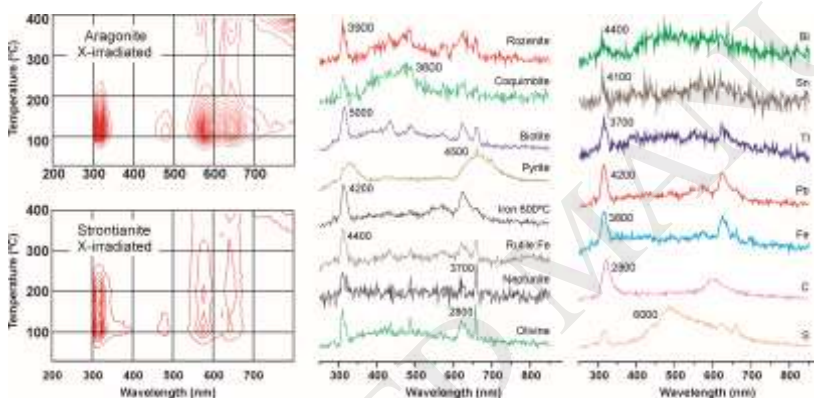
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## GRAPHICAL ABSTRACT



## HIGHLIGHTS

- (1) Attached hydroxyl groups are universally present in solid samples kept in environmental conditions being potentially active luminescence emitters.
- (2) Cathodoluminescence spectra of very different sixty hydrous solid materials exhibit constant peaks at 315 nm and 620 and 650 nm.
- (3) Iron bearing materials, such as biotite, olivine or native iron (Fe 100%) show appreciable cathodoluminescence spectral bands.
- (4) CL spectra are associated with hydroxyl groups (315 nm) and water molecules (620 and 650 nm) as precursors of non-bridging oxygen hole centers.
- (5) These relationships between CL emissions and hydrous defects are important uses using luminescence techniques.

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