

Self-Assembly of Cu(II)-Exchanged Montmorillonite Particle in Aqueous Solution: EPR Evidence

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To investigate the self-assembly phenomena of montmorillonite during drying process, the Cu(II) exchanged montmorillonite thin film was prepared and EPR spectra were measured. The EPR spectra of Cu(II) exchanged montmorillonite film showed regularly arranged monomeric Cu(II) species within the interlayer of montmorillonite. The angular dependent EPR spectra clearly demonstrate the reordering of montmorillonite(electrostatic self-assembly) particles from aqueous solution during drying process. This can be applied to make ordered paramagnetic system in montmorillonite(2:1 clay mineral) based matrix.