

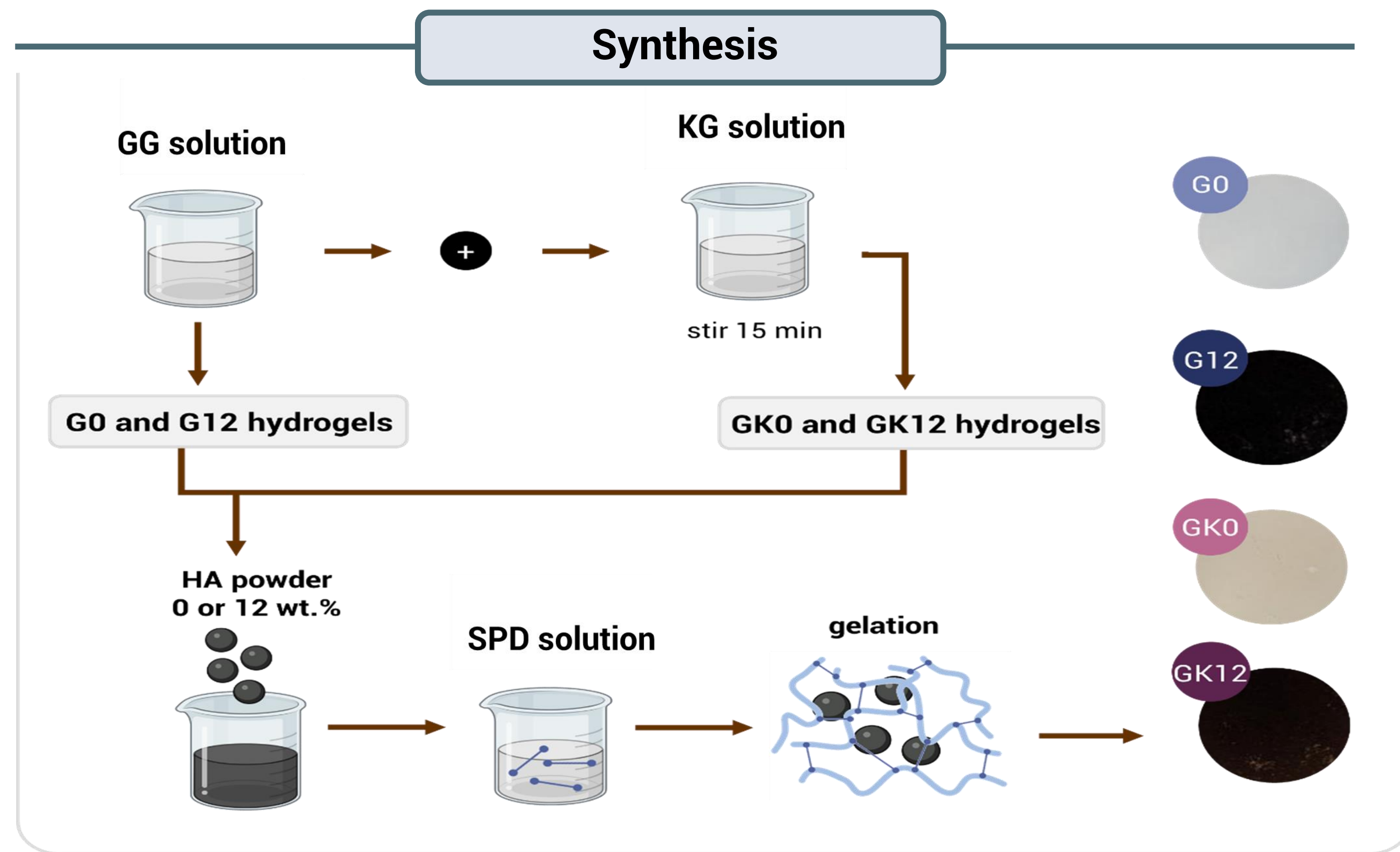
Humic Acid-Enriched Biopolymer Hydrogels: Water Retention, Biodegradation, and Sorghum Growth

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Methodology

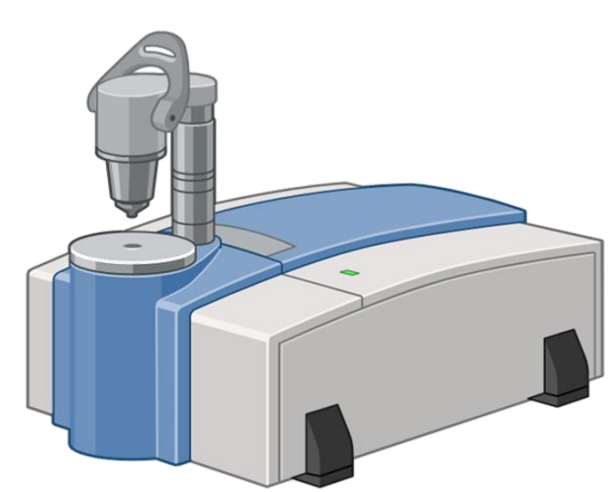


Characterization

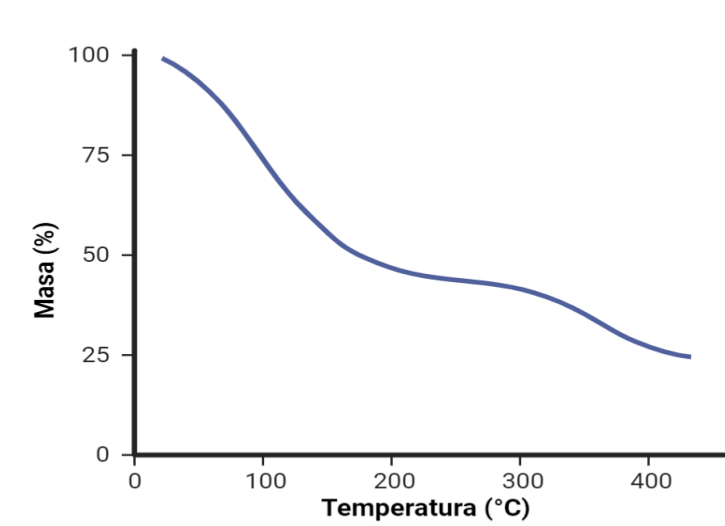
Scanning Electron Microscopy (SEM)



Infrared spectroscopy (ATR-FTIR)



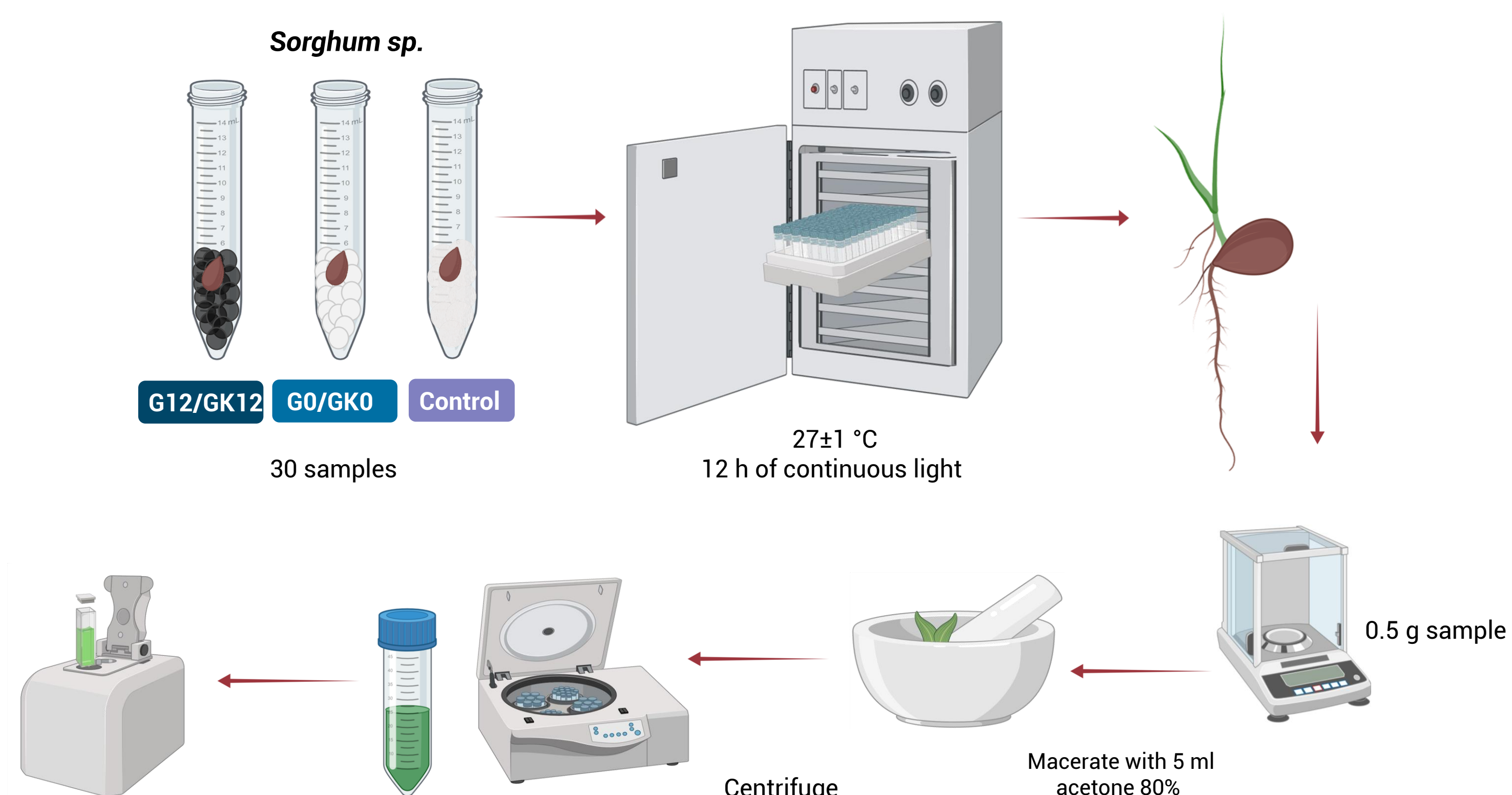
Thermogravimetric analysis (TGA)



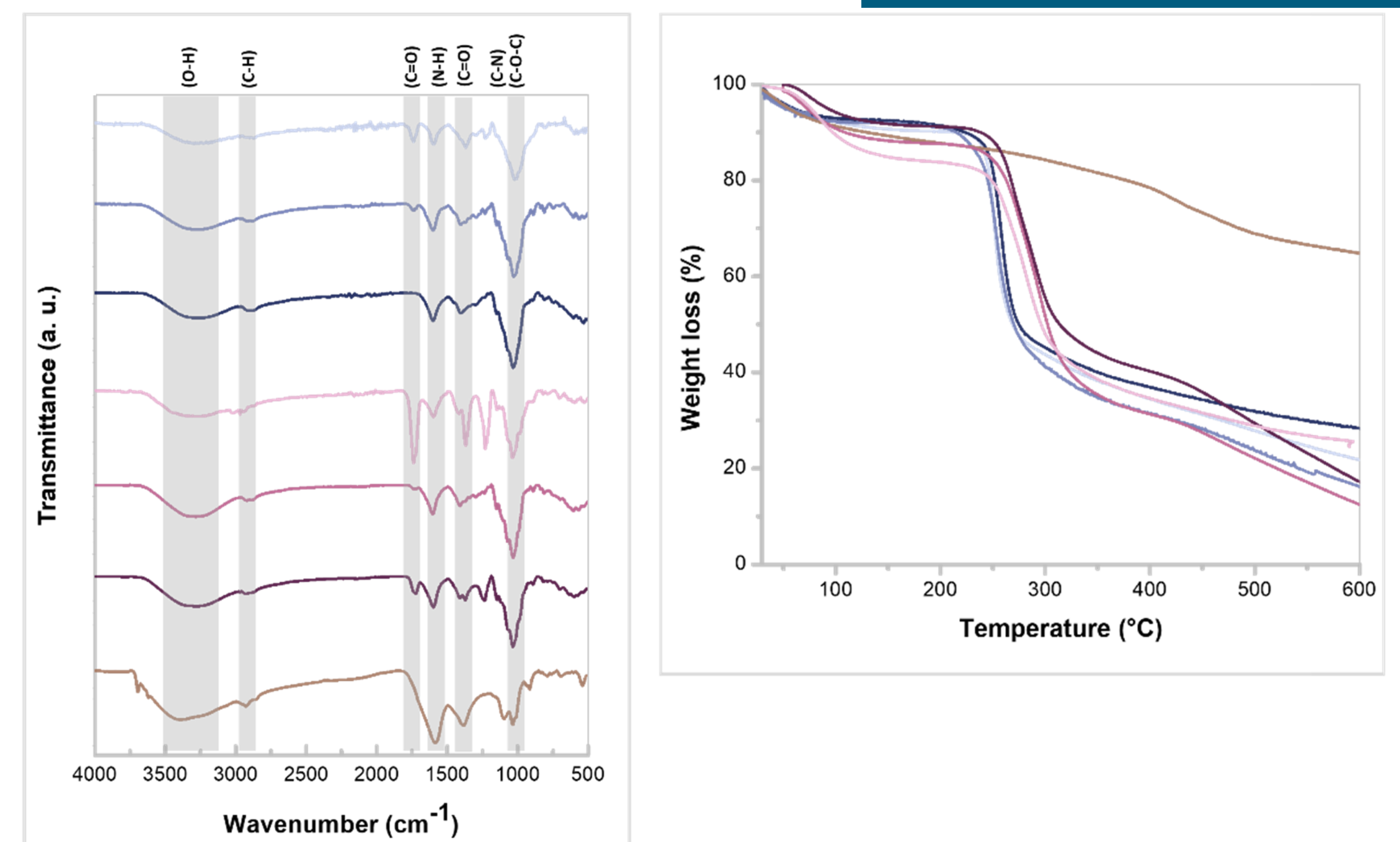
Swelling: soil extract



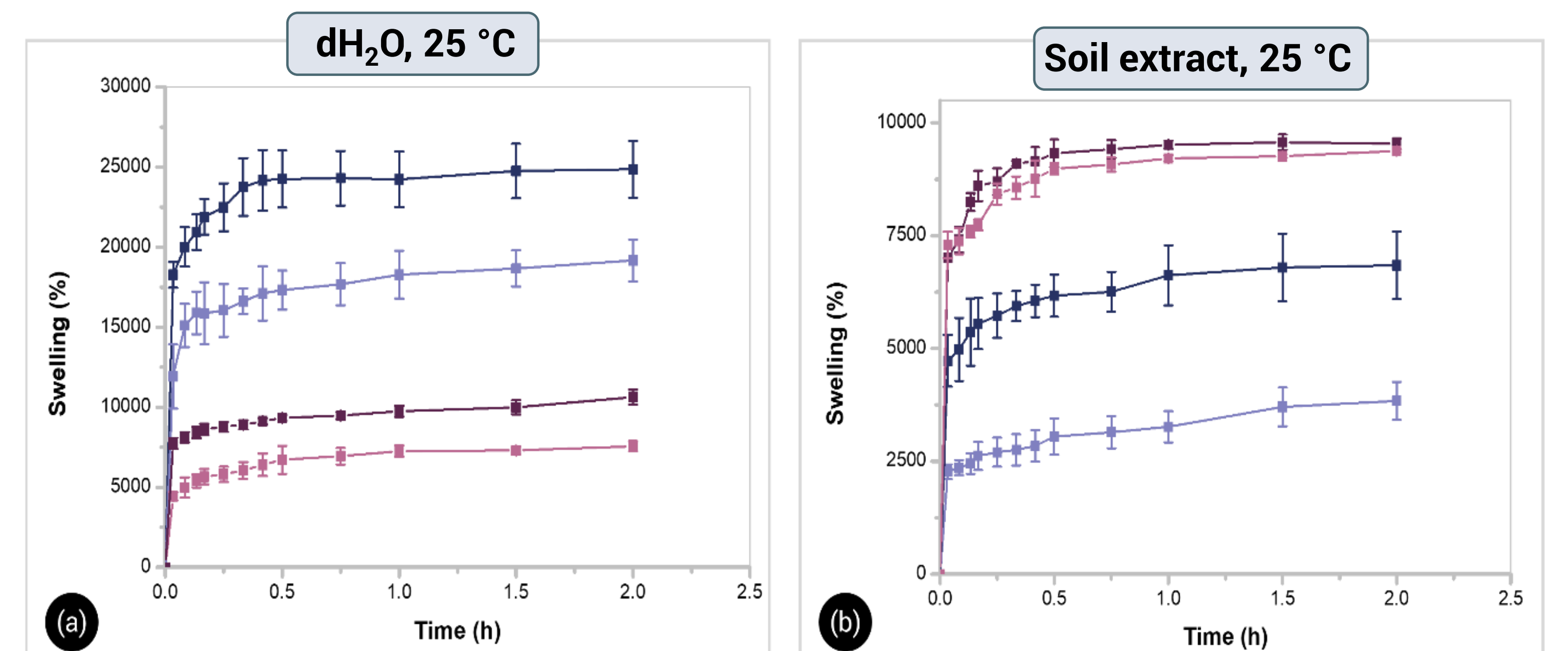
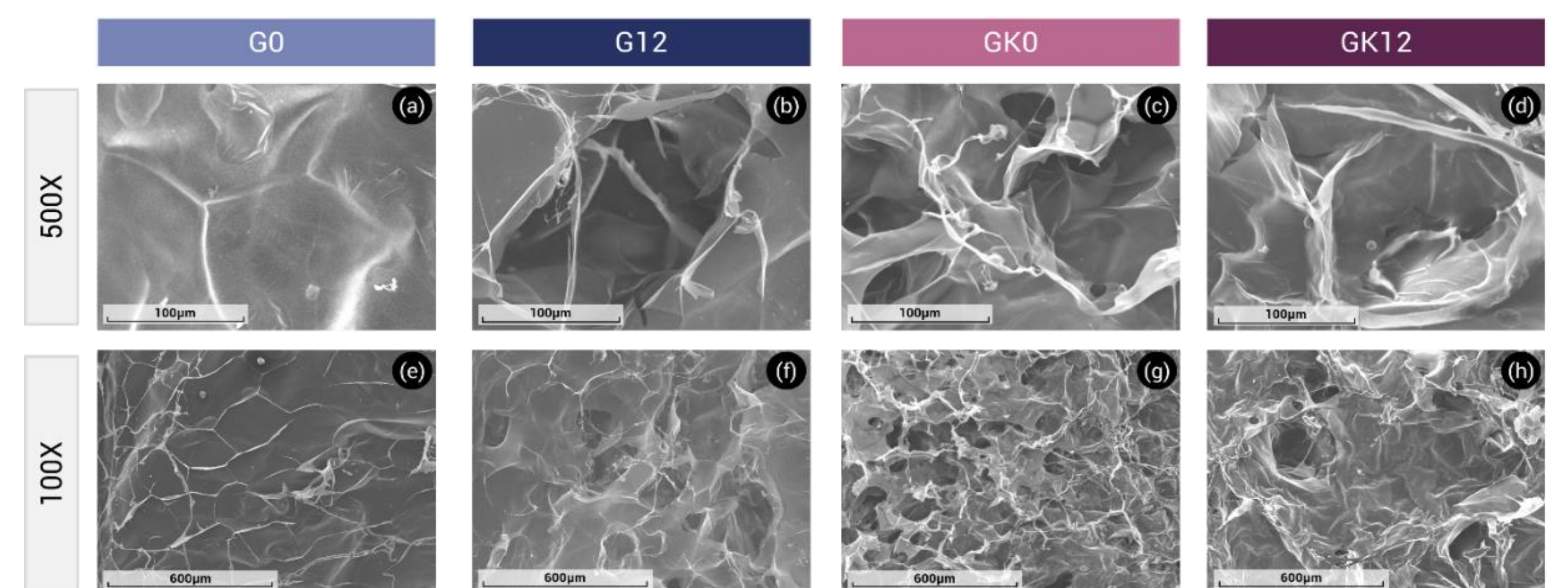
Germination



Results



Legend for FTIR and TGA: GG (light blue), G0 (blue), G12 (dark blue), KG (pink), GK0 (magenta), GK12 (purple), HA (brown).



Legend for Swelling: G0 (light blue), G12 (dark blue), GK0 (pink), GK12 (purple).

