

5th International Conference and Expo on

Ceramics and Composite Materials

June 03-04, 2019 | London, UK

Preparation of ceramic membranes of nanofiltration by Nano-deposition to be used in the purification of water with different contaminants

Guangyuan Yang¹, Jun Zhou¹, Sanwen Peng¹ and Zhixiong Huang²

Irelanda Grisel-Cruz Reyes

Instituto Politécnico Nacional Unidad Profesional Adolfo López Mateos, Mexico

New deep eutectic natural solvents (NADEs) were synthesized by a green method, starting from sucrose and urea. These have been developed as a type of ionic liquid and had demonstrated great capacity to remove pollutants from water. The precursors were mixed at 1:3 molar sucrose/ethylene glycol, and were characterized by dynamic light scattering, FTIR, Viscosity, Mass Spectroscopy and Nuclear Magnetic Resonance (NMR) of ¹H y ¹³C. Later, were deposited on ceramic membranes and presents enhances properties, like biodegradable, economical and environmentally friendly. In the synthesis by " Green chemistry " of solvents this can eliminate pollutants, such pollutants are usually heavy metals such as Cadmium (Cd). Arsenic (As), Iron (Fe), Zinc (Zn) and synthetic dyes. These types of green solvents are called Natural deep eutectic solvents (NADEs); These are environmentally friendly in the degradation of pollutants since they are biodegradable, non-toxic, recyclable, non-volatile and non-flammable. NADEs use cellular components such as sugars, alcohols, amino acids, organic acids and choline derivatives as the main reagent. In the present work, NADEs were synthesized with nanometer particles of sucrose which allow the removal of pollutants in the aqueous phase of Chromium (Cr) and Nickel (Ni).

irlandahu@hotmail.com