

## Supplementary Material

# Assessment of the Potential of Using Nanofiltration Polymeric and Ceramic Membranes to Treat Refinery Spent Caustic Effluents

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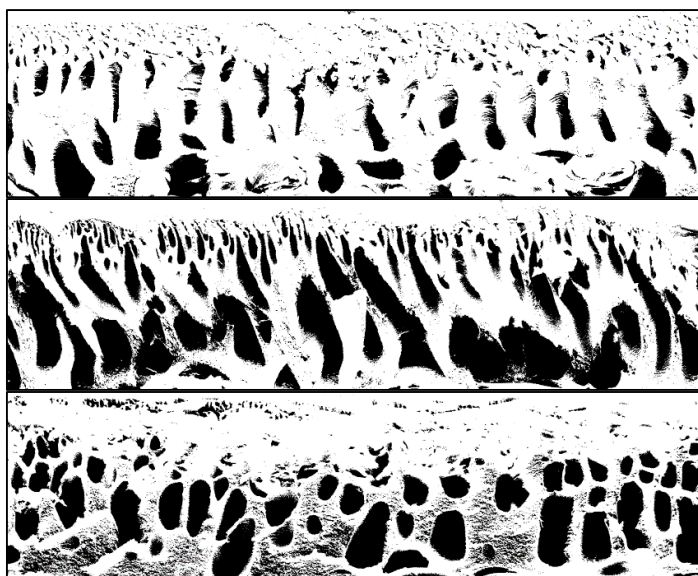
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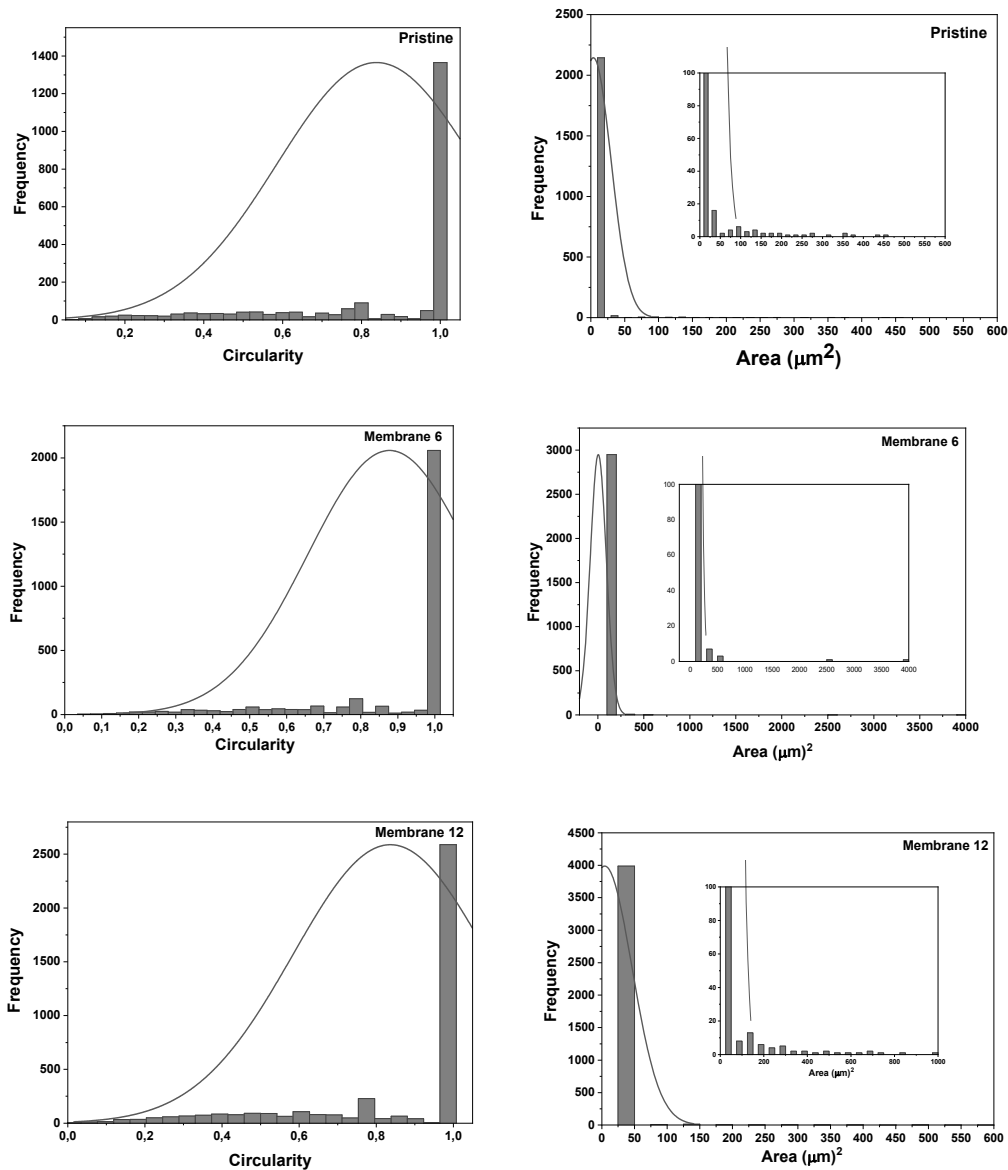
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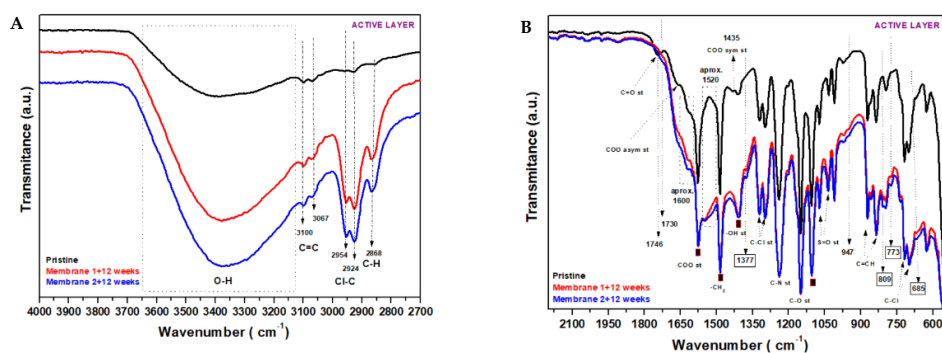
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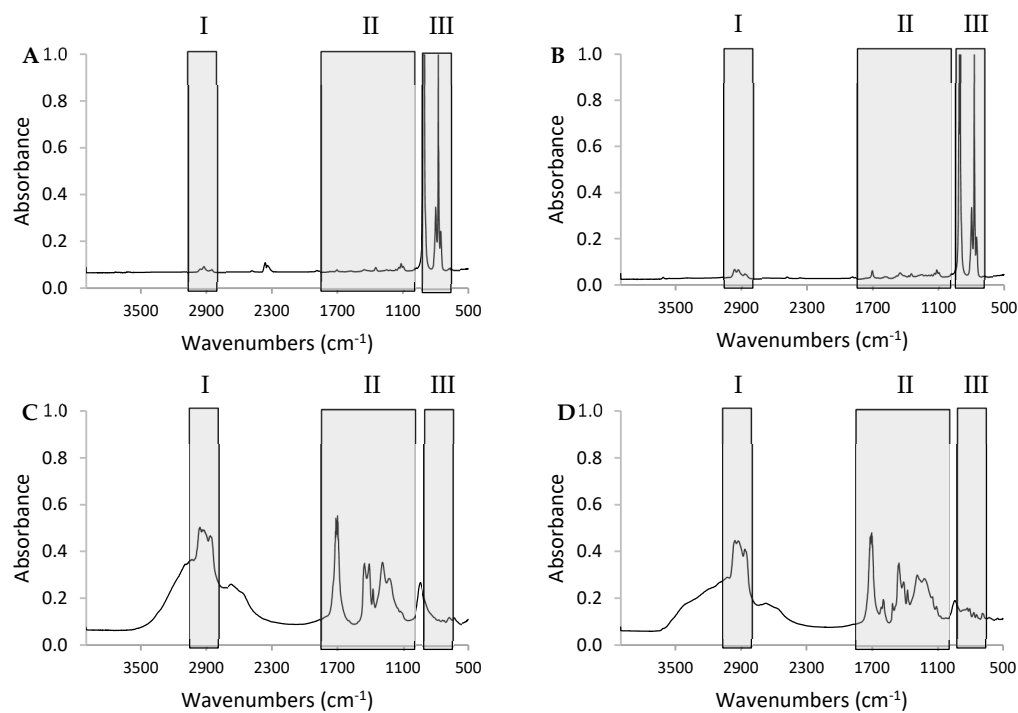
**Figure S1.** - SEM binarized cross section images, using a threshold of 149 for Pristine Membrane (up), and 255 for Membrane 6 (middle) and Membrane 12 (down).

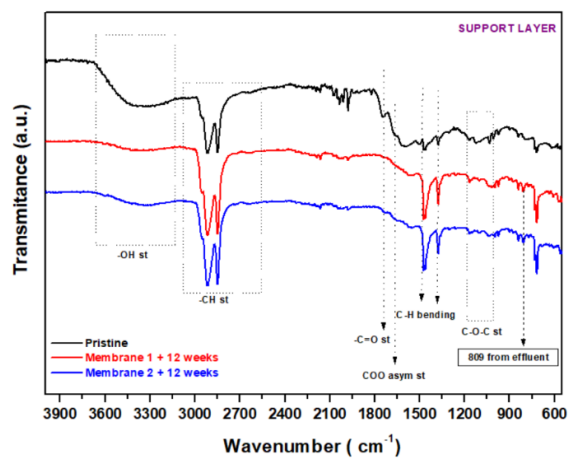


**Figure S2.** - Representation of the circularity (left) and porous area ( $\mu\text{m}^2$ ) (right) distribution, for all porous (counts) detected by the ImageJ software: Pristine (Up), Membrane 6 (middle) and Membrane 12 (down). (Obtained with Origin Software).



**Figure S3.** - FT-IR spectra magnifications in regions 4000–2700  $\text{cm}^{-1}$  (A) and 2200–550  $\text{cm}^{-1}$  (B) of the active layer of the pristine membrane and membranes after 12 weeks immersion in spent caustic (made in duplicate).





**Figure S5.** - FT-IR spectra of support layer for pristine membrane and membranes (made in duplicate) after 12 weeks immersed in spent caustic effluent.