

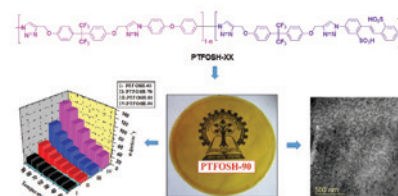
In this issue

Asheesh Singh, Anaparthi Ganesh Kumar, Soumendu Bisoi, Sayantani Saha and Susanta Banerjee
Hexafluoroisopropylidene based sulfonated new copolytriazoles: investigation of proton exchange membrane properties

DOI 10.1515/epoly-2016-0285
 e-Polymers 2017; 17(2): 107–118

Full length article: A number of sulfonated polytriazole copolymers were prepared by the click polymerization reaction. The proton exchange membrane properties were investigated and correlated with the ion exchange capacity (degree of sulfonation) of the copolymer membranes.

Keywords: click reaction; mechanical properties; polytriazole copolymers; proton conductivity; transmission electron microscopy.

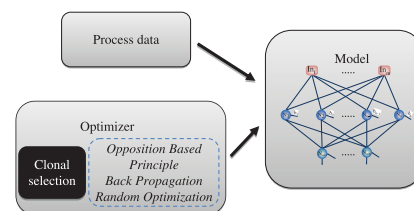


Mehdi Moghri, Elena Niculina Dragoi, Ali Salehabadi, Devesh Kumar Shukla and Yasser Vasseghian
Effect of various formulation ingredients on thermal characteristics of PVC/clay nanocomposite foams: experimental and modeling

DOI 10.1515/epoly-2016-0151
 e-Polymers 2017; 17(2): 119–128

Full length article: The effect of various ingredients on the thermal behavior of melt blended poly (vinyl chloride)/NC nanocomposites was investigated. Combinations of two artificial intelligence algorithms were performed for modeling the systems.

Keywords: artificial neural networks; clonal selection; hybridization; nanocomposites; thermal characteristics.

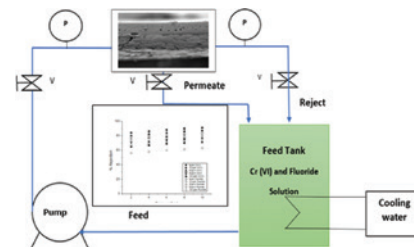


Mahendra S. Gaikwad and Chandrajit Balomajumder
TFC polyamide NF membrane: characterization, application and evaluation of MTPs and MTC for simultaneous removal of hexavalent chromium and fluoride

DOI 10.1515/epoly-2016-0219
 e-Polymers 2017; 17(2): 129–136

Full length article: The aim of the present work was to check the feasibility of a thin film composite (TFC) polyamide NF500 nanofiltration (NF) membrane for simultaneous removal of hexavalent chromium and fluoride from a synthetically prepared binary solution.

Keywords: fluoride; hexavalent chromium; nanofiltration; NF500 membrane; polyamide.

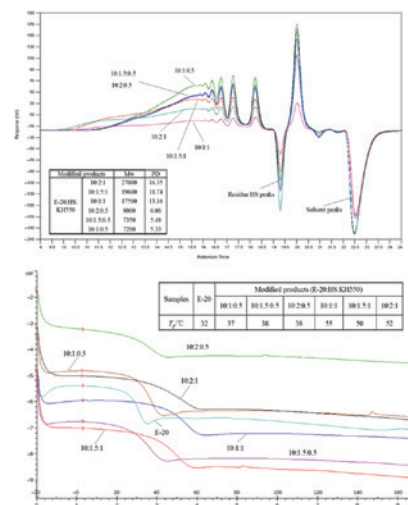


Chengyue Ge, Yudi Guo, Xiumin Ma and Baorong Hou
Functionalization of epoxy resin and the performance of the resultant magnesium-rich primer

DOI 10.1515/epoly-2016-0166
 e-Polymers 2017; 17(2): 137–148

Full length article: Magnesium (Mg)-rich primer can provide cathodic protection for aluminum (Al) alloy due to the lower potential of Mg. In this paper, bisphenol-A type epoxy resin E-20 was graft modified in three ways. Then the Mg-rich primer was prepared by direct blends of modified resins.

Keywords: coating; epoxy resin; functionalization of polymer; grafting modification; organic silicone.

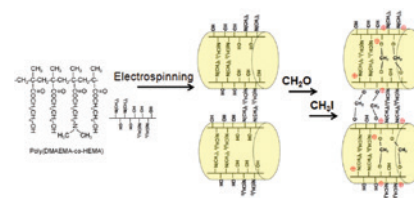


Henmei Ni, Yadong Yang, Yixuan Chen, Junxiu Liu, Lijuan Zhang and Min Wu
Preparation of a poly(DMAEMA-co-HEMA) self-supporting microfiltration membrane with high anionic permselectivity by electrospinning

DOI 10.1515/epoly-2016-0207
 e-Polymers 2017; 17(2): 149–157

Full length article: A new approach was proposed to fabricate a self-supporting nanofiltration membrane by electrospinning. A poly(DMAEMA-co-HEMA) nanofibrous mat was crosslinked by formaldehyde and quaternized by CH₃I. It provided the nanofibrous mat with a high tensile strength and good ion permselectivity.

Keywords: anion exchange; crosslinked microfibrillar mat; electrospinning; ion permselectivity; microfiltration membrane.

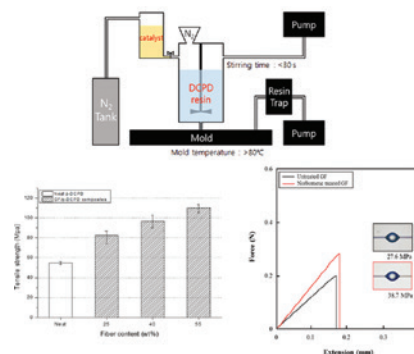


Hyeong Min Yoo, Dong-Jun Kwon, Joung-Man Park, Sang Hyuk Yum and Woo Il Lee
Mechanical properties of norbornene-based silane treated glass fiber reinforced polydicyclopentadiene composites manufactured by the S-RIM process

DOI 10.1515/epoly-2016-0257
 e-Polymers 2017; 17(2): 159–166

Full length article: A lab scale structural reaction injection molding (S-RIM) equipment was designed and used to fabricate glass fiber reinforced polydicyclopentadiene (p-DCPD) composites for three different fiber contents.

Keywords: dicyclopentadiene; differential scanning calorimetry; glass fiber; reaction injection molding.



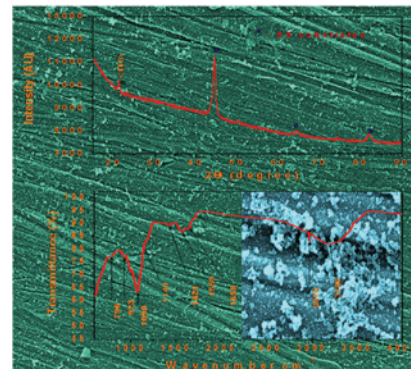
Amarsingh V. Thakur and Balkrishna J. Lokhande

Effect of dip time on the electrochemical behavior of PPy-Cu(OH)₂ hybrid electrodes synthesized using pyrrole and CuSO₄

DOI 10.1515/epoly-2016-0160
e-Polymers 2017; 17(2): 167–173

Full length article: The present work is on the successive ionic layer adsorption and reaction (SILAR) mediated synthesis and study of variations in electrochemical behavior of PPy-Cu(OH)₂ hybrid electrodes with dip time.

Keywords: energy storage; hybrids; polypyrrole; SILAR; supercapacitor; thin films.



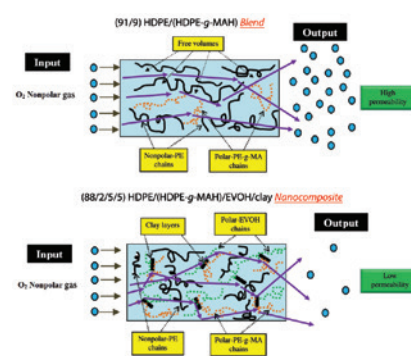
Zahed Ahmadi

Interfacial interaction exploration and oxygen barrier potential of polyethylene/poly(ethylene-co-vinyl alcohol)/clay hybrid nanocomposites

DOI 10.1515/epoly-2016-0240
e-Polymers 2017; 17(2): 175–185

Full length article: Hybrid nanocomposites based on high-density polyethylene (HDPE)/ poly(ethylene-co-vinyl alcohol) (EVOH)/clay were prepared and fully characterized. Morphological (WAXS and TEM), calorimetric (DSC), and dynamic mechanical thermal (DMTA) analyses were applied to investigate potential of nanocomposites as barrier against oxygen.

Keywords: barrier properties; nanoclay; nanocomposites; poly(ethylene-co-vinyl alcohol); polyethylene.



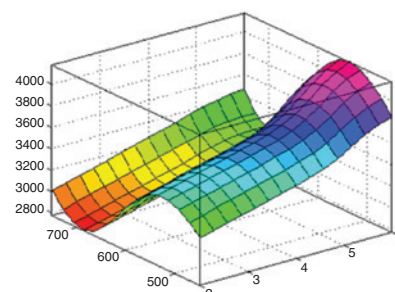
Maryam Shahriari-kahkeshi and Mehdi Moghri

Prediction of tensile modulus of PA-6 nanocomposites using adaptive neuro-fuzzy inference system learned by the shuffled frog leaping algorithm

DOI 10.1515/epoly-2016-0235
e-Polymers 2017; 17(2): 187–198

Full length article: In this work, PA-6 nanocomposites containing different amounts of nanoclay were prepared using a corotating twin-screw extruder. In practice, it is hard task to identify the relationship between the extrusion process parameters and the tensile modulus of PA-6 nanocomposites by performing several experiments.

Keywords: ANFIS modeling; PA-6 nanocomposites; prediction; shuffled frog leaping algorithm.



Yanbin Wang, Guangming Lu, Wenjie Wang, Meng Cao, Zhonglin Luo, Ningning Shao and Biaobing Wang
Molecular design and synthesis of thermotropic liquid crystalline poly(amide imide)s with high thermal stability and solubility

DOI 10.1515/epoly-2016-0288
e-Polymers 2017; 17(2): 199–207

Full length article: The phase transition of thermotropic liquid crystalline poly(amide imide)s (PAI)s with a well-defined structure was investigated. Furthermore, the prepared PAIs exhibit good solubility and high thermal stability and mechanical property, which could be used as liquid crystalline display materials.

Keywords: phase transition; poly(amide imide); solubility; thermal stability; thermotropic liquid crystalline.

