Direct introduction of redox centers at activated carbon substrate based on acid-substituent-assisted diazotization

Submitted by Emmanuel Lemoine on Thu, 02/06/2014 - 11:15

Titre	Direct introduction of redox centers at activated carbon substrate based on acid-substituent-assisted diazotization
Type de publication	Article de revue
Auteur	Lebègue, Estelle [1], Brousse, Thierry [2], Crosnier, O. [3], Gaubicher, Joël [4], Cougnon, Charles [5]
Type	Article scientifique dans une revue à comité de lecture
Année	2012
Langue	Anglais
Date	11/2012
Pagination	124-127
Volume	25
Titre de la revue	Electrochemistry Communications
ISSN	1388-2481
Résumé en anglais	Redox properties have been imparted to activated carbon with a high degree of functionalization by chemical grafting of 2-amino-4,5-dimethoxybenzoic add in situ diazotized. The diazotization reaction was accomplished in the presence or in the absence of HCl for estimating the positive or negative effect of the carboxylic acid substituent on the grafting yield. Thermal gravimetric analysis, X-ray photoelectron spectroscopy and cyclic voltammetry experiments show that when the carboxylic acid group participates to the diazotization reaction. the grafting yield is improved and becomes even better than when the carboxylic group is not present, increasing the capacitance of pristine carbon electrode from 120 to 200 F/g.
URL de la notice	http://okina.univ-angers.fr/publications/ua2713 [6]
DOI	10.1016/j.elecom.2012.09.034 [7]

Liens

[1] http://okina.univ-angers.fr/publications?f[author]=3184
[2] http://okina.univ-angers.fr/publications?f[author]=3185
[3] http://okina.univ-angers.fr/publications?f[author]=3530
[4] http://okina.univ-angers.fr/publications?f[author]=3186
[5] http://okina.univ-angers.fr/c.cougnon/publications
[6] http://okina.univ-angers.fr/publications/ua2713
[7] http://dx.doi.org/10.1016/j.elecom.2012.09.034