



Technical Data Sheet

ACS Material Aminated Graphene Amino-PEG Covalently Linked

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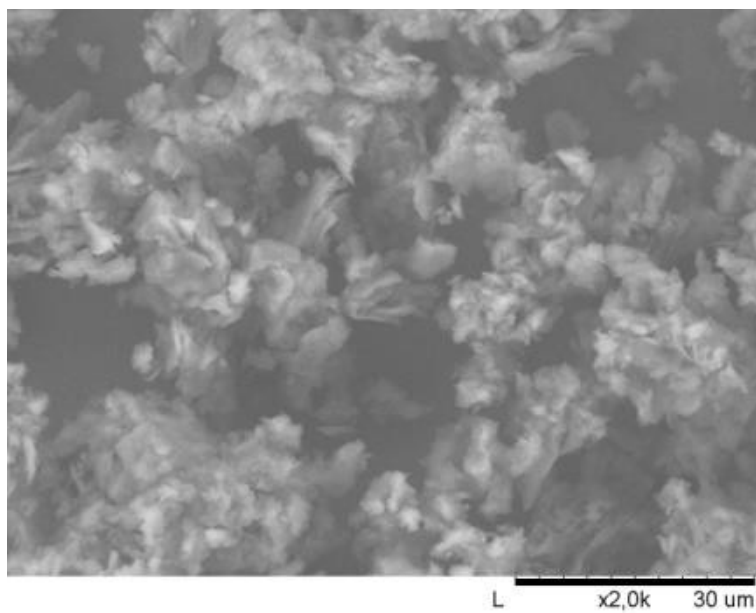
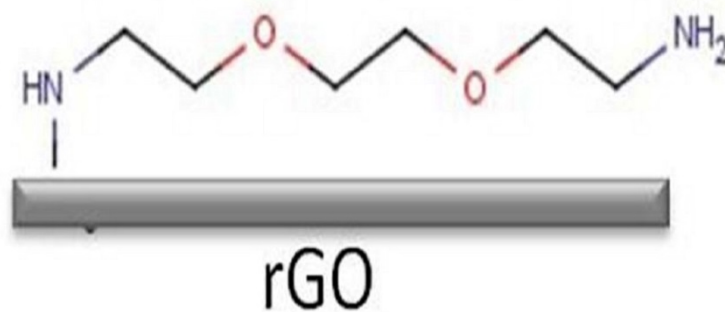
Contact Information:

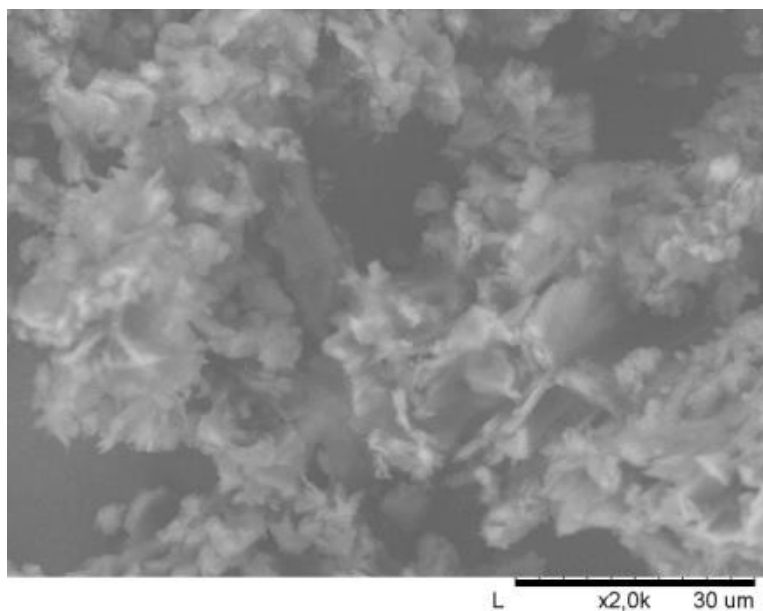
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1. Preparation Method

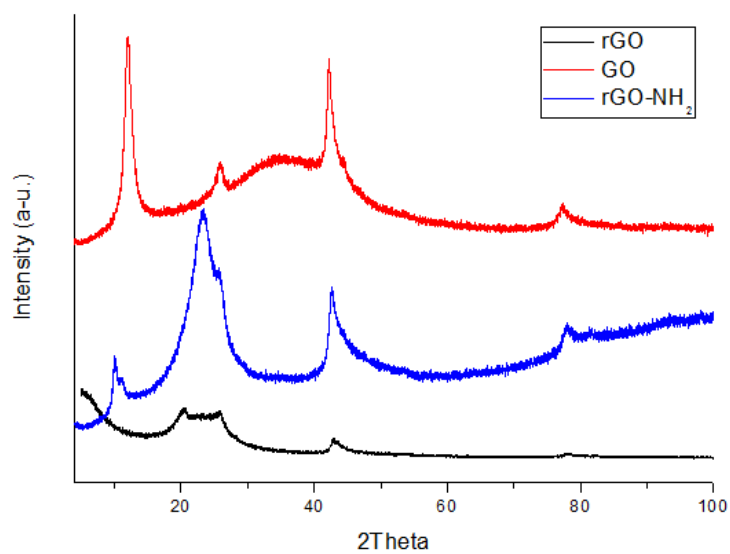
- 1) Modified Hummer's Method to make graphene oxide
- 2) Convert $-OH$ and $C-O-C$ into $-NH_2$.

2. Characterizations

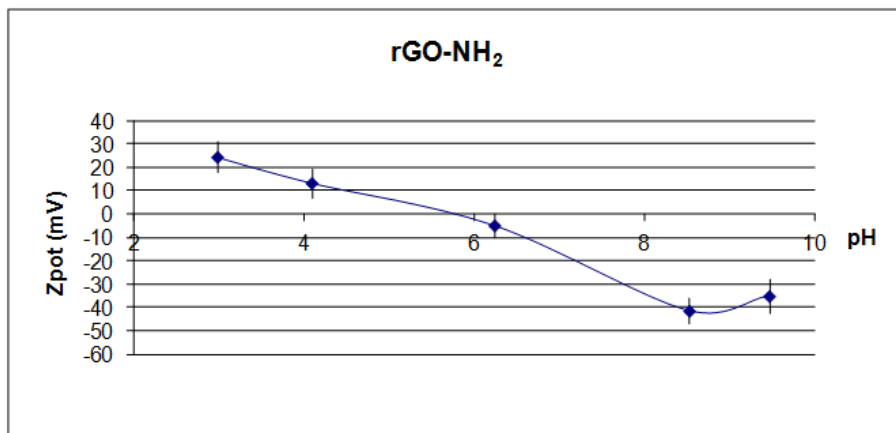




Typical SEM Image of ACS Material Aminated Graphene Amino-PEG Covalently Linked



XRD pattern of ACS Material GO, rGO and rGO-NH₂



Zeta-potential versus pH curve for rGO-NH₂

XPS Results of rGO-NH₂, GO-NH₂ and GO

	C 1s	O 1s	N 1s	O/C atomic ratio	N/C atomic ratio
rGO-NH ₂	284.8 (82)	531.5 (49)	399.4	0.006	0.162
	286.3 (18)	533.2 (51)			
GO-NH ₂	284.8 (52)	531.1 (30)	399.6	0.255	0.080
	286.2 (37)	532.6 (70)			
	288.0 (11)				
GO	284.8 (38)	531.5 (21)	--	0.655	--
	286.6 (54)	532.7 (79)			
	288.4 (8)				

Elemental analysis of rGO-NH-(CH₂)₁₇-CH₃ and GO

	% C	% H	% N	% S
rGO-NH ₂	80.91	8.22	3.11	0.02
GO-NH ₂	67.71	3.72	6.41	0.04
GO	53.24	2.51	0.04	0.91

3. Application Fields

- 1) Catalyst
- 2) Supercapacitors
- 3) Solar energy
- 4) Graphene semiconductor chips
- 5) Conductive graphene film
- 6) Graphene computer memory
- 7) Biomaterials
- 8) Transparent conductive coatings

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