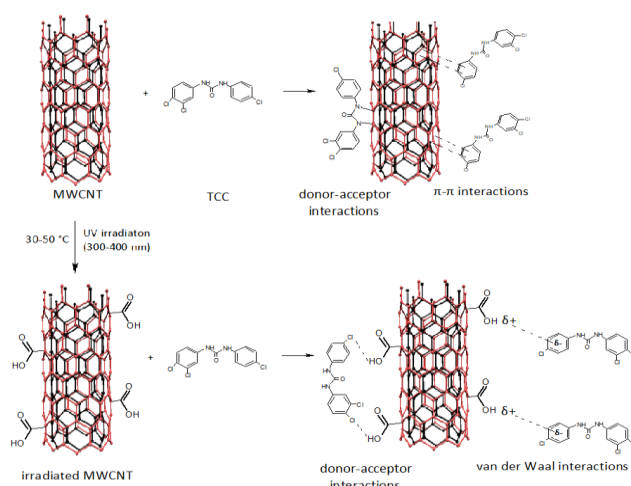
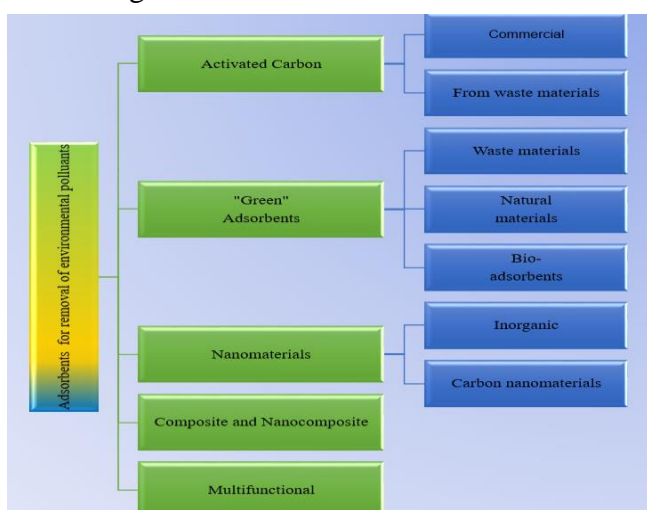


Carbon-based materials applied in environmental treatment of natural waters

Carbon nanomaterials gained in the last decade high importance as adsorbents in the treatment of natural waters, based on their physical, chemical and morphological properties. Carbon nanomaterials can be much more effective adsorbents in comparison with activated carbon, due to their higher available surface area, more efficient regeneration and more creative design possibilities in order to confer them good selectivity and even specificity. Further studies will help to decrease the costs, especially at pilot scale. The effectiveness of these adsorbents can be evaluated based on the performances and their simple and efficient regeneration.



Sorption conditions at 25 °C	;			Freundlich		
	K_L , L/mg	q_m , mg/g	R^2	K_F	n	R^2
MWCNT pristine in water	0.0713	59.71	0.9891	9.08	0.4557	0,9756
MWCNT pristine in 10 mg/L HA	0.0494	61.06	0.9875	6.86	0.4662	0,9167
MWCNT pristine in 50 mg/L HA	0.0217	64.68	0.9330	3.20	0.5917	0,9791
MWCNT irradiated in water	0.0365	39.97	0.9655	12.24	0.3325	0,9620
MWCNT irradiated in 10 mg/L HA	0.0530	42.21	0.8971	5.93	0.4267	0,9740
MWCNT irradiated in 50 mg/L HA	0.0692	49.13	0,9876	6.08	0.4959	0,9790

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 Research directions: Environmental analytical applications of carbon-based nanomaterials

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Reference of Call/ topic of interest.
Potential contribution/ main ideas
 - Water monitoring and treatment,
 nanomaterials for water, gas, food monitoring
 sensors (missions, M-ERA.NET, HEU calls)

