

Supplementary: BET analysis and density analysis and pore size distribution analysis, with the plot in supplementary data,

PYCNOMATIC - DENSITY MEASUREMENT REPORT

Sample Name: Activated carbon

Comment:

Operator:SN

Analysis start:03.04.17 13:19

Analysis end:03.04.17 13:43

Vessel Correction:0.00000 cc

Vessel ID no.:4

Vessel weight:6.45200 g

Total weight before:18.13530 g

Sample weight before:11.68330 g

Total weight after:18.13530 g

Sample weight after:11.68330 g

Weight difference:0.00000 g

ANALYTICAL PARAMETERS

Reference:I

Reduction:Small

Reference volume:21.24344 cc

Cell volume:24.78413 cc

Filler volume:0.00000 cc

Repeated analyses no.:1

Flow cleaning time:0 sec

Number of cleaning cycles:5

Sample cleaning time:10 sec

Atm stabilization time:30:sec

Restriction delta pressure:0.30000 bar

Equilibrium delta pressure:0.00050 bar

Equilibrium delta time:10:sec

Standard deviation %:0.040 %

No. of good measurements:5

No. of max. measurements:10

High Percision:Yes

Temperature set:25.00 °C

RESULTS

Average Sample Volume:6.25235 cc

Volume Standard Deviation:0.00100 cc

% Standard Deviation on Volume:0.01601 %

Average Sample Density:1.86862 g/cc

Density Standard Deviation:0.00030 g/cc

% Standard Deviation on Density:0.01601 %

Average Sample Density after:1.86862 g/cc

MEASUREMENT RAW DATA

Patmh bar	Prh bar	Pch bar	Temp °C	Volume cc		Aver.Vol	Aver.Dev.
				cc	cc		
1.01446		2.17420		1.63371	24.99	6.24298	0.00000
1.01442		2.17517		1.63431	24.99	6.24857	0.00395
1.01432		2.17669		1.63512	24.99	6.25220	0.00464
1.01431		2.17761		1.63560	24.99	6.25144	0.00418
1.01429		2.17876		1.63622	24.99	6.25199	0.00389
1.01428		2.14691		1.61922	25.00	6.25309	0.00172
1.01423		2.17902		1.63635	24.99	6.25371	0.00090
1.01422		2.17947		1.63655	24.99	6.25154	0.00100

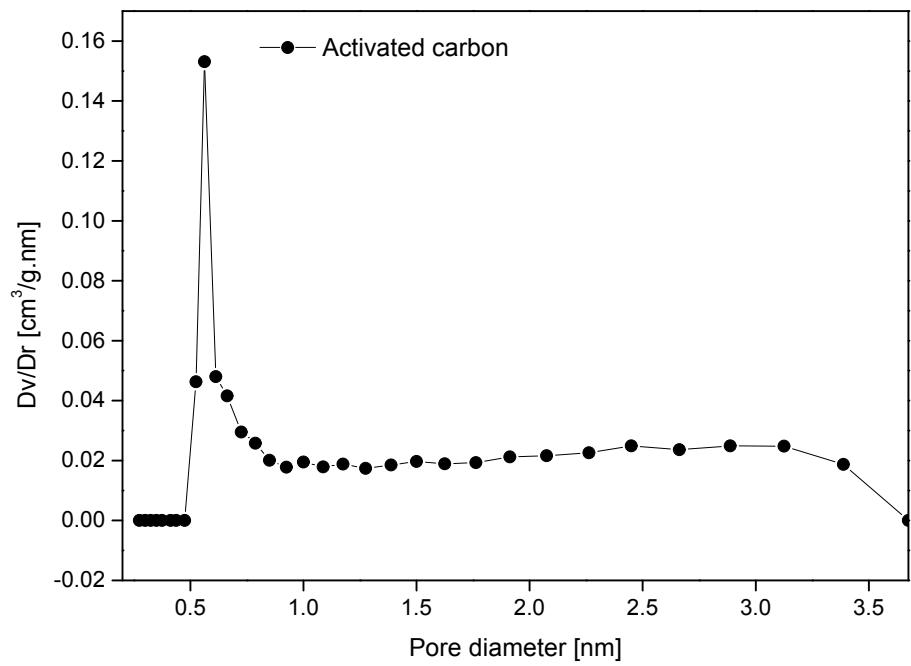


Fig. 1 Pore size distribution

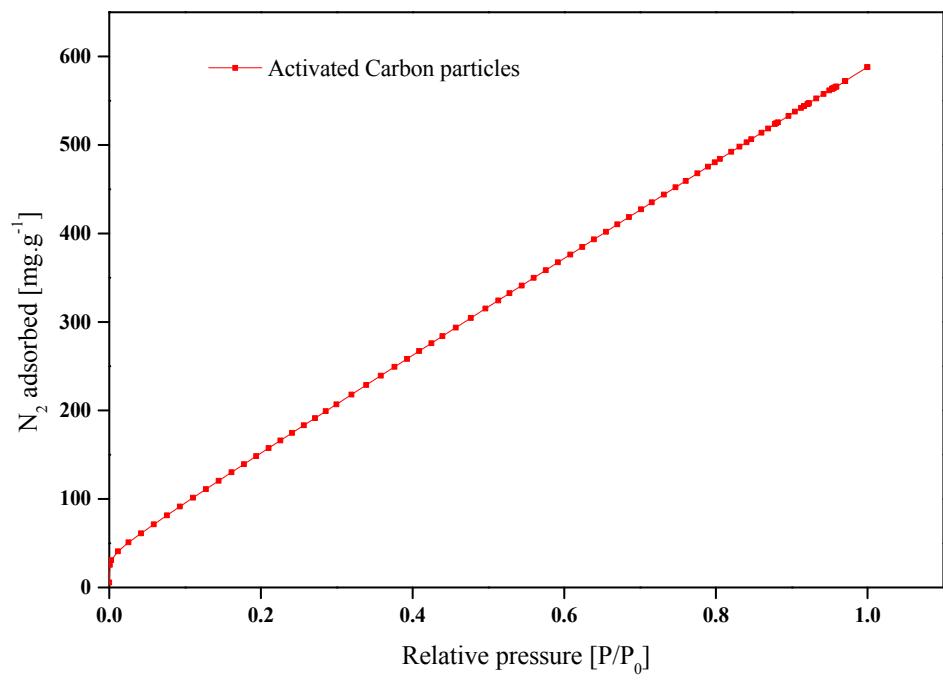


Fig. 2: BET surface area analysis (Thermo Fisher-Scientific)