



Article

Corn Cob as a Green Support for Laccase Immobilization and its application on Biodegradation of Remazol Brilliant Blue R

Supplementary Materials

Table S1. Effect on Immobilization Yield and Recovered activity on immobilization of L_{Asp} on CC support.

pH	Immobilization Yield (%)	Recovered Activity (%)
4	18 ± 0.1	3.7 ± 0.4
5	29 ± 2.5	10.2 ± 1
6	53 ± 3.7	29.4 ± 5.8
7	75 ± 0.6	39.7 ± 1.3
8	41 ± 1.7	21.3 ± 2.8
9	14 ± 1.1	4.0 ± 1.6

Table S2. Effect of the time on Immobilization Yield and Recovered Activity in the immobilization of L_{Asp} on CC support.

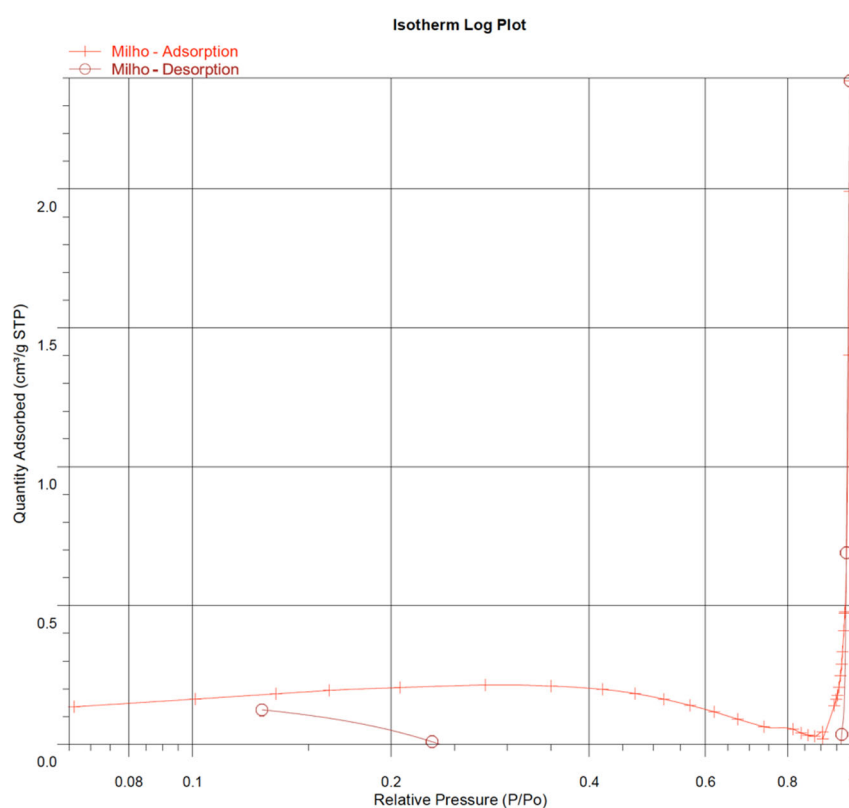
Time (min)	Immobilization Yield (%)	Recovered Activity (%)
0	0	0
0.5	11 ± 0.6	1.5 ± 1
1	26 ± 0.4	2.4 ± 0.5
1.5	48 ± 0.4	15 ± 0.2
2	74 ± 0.7	38 ± 0.2
2.5	73 ± 0.2	45 ± 1
3	73 ± 0.3	39 ± 0.1
4	74 ± 0.1	40 ± 0.4
6	74 ± 0.6	39 ± 0.1
8	74 ± 1.5	39 ± 0.5
12	75 ± 0.5	40 ± 0.2
24	75 ± 0.3	39 ± 0.6

Table S3. Effect of ionic strength on Immobilization Yield and Recovery Activity at immobilization of L_{Asp} on CCsupport.

Ionic Strenght (mol . L ⁻¹)	Immobilization yield (%)	Recovered Activity (%)
0.01	83 ± 2.7	11.5 ± 1.6
0.025	83 ± 3	24 ± 3.3
0.05	76 ± 2	51 ± 0.4
0.1	75 ± 0.1	39 ± 0.6
0.2	66 ± 0.5	21 ± 4.9
0.25	62 ± 1.1	13 ± 1.2

Table S4. Recycling and determination of residual activity presented by immobilized L_{Asp} in the decolorization of the RBBR dye.

Number of cycles	Decolorization of RBBR (%)	Residual activity (%)
1	74 ± 1.6	99 ± 1
2	73.8 ± 3	97 ± 2.2
3	68.5 ± 1.5	92 ± 1
4	60 ± 2.1	87 ± 1
5	57.5 ± 1.6	70 ± 2.6
6	39 ± 2.1	55 ± 3
7	21 ± 1.2	31 ± 1
8	9.5 ± 2	16 ± 4.3
9	0.2 ± 0.6	6 ± 1.5

**Figure S1.** N₂ Adsorption and Desorption Isotherm of defatted corn cob in BET analysis (Log Plot).

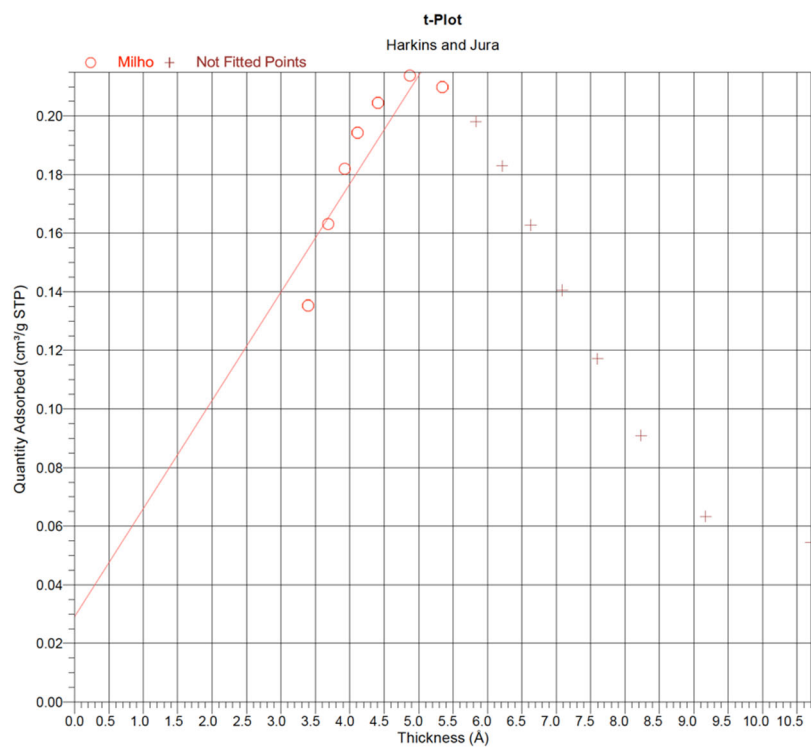


Figure S2. N₂ Adsorption and Desorption Isotherm of defatted corn cob in BET analysis (t-Plot).

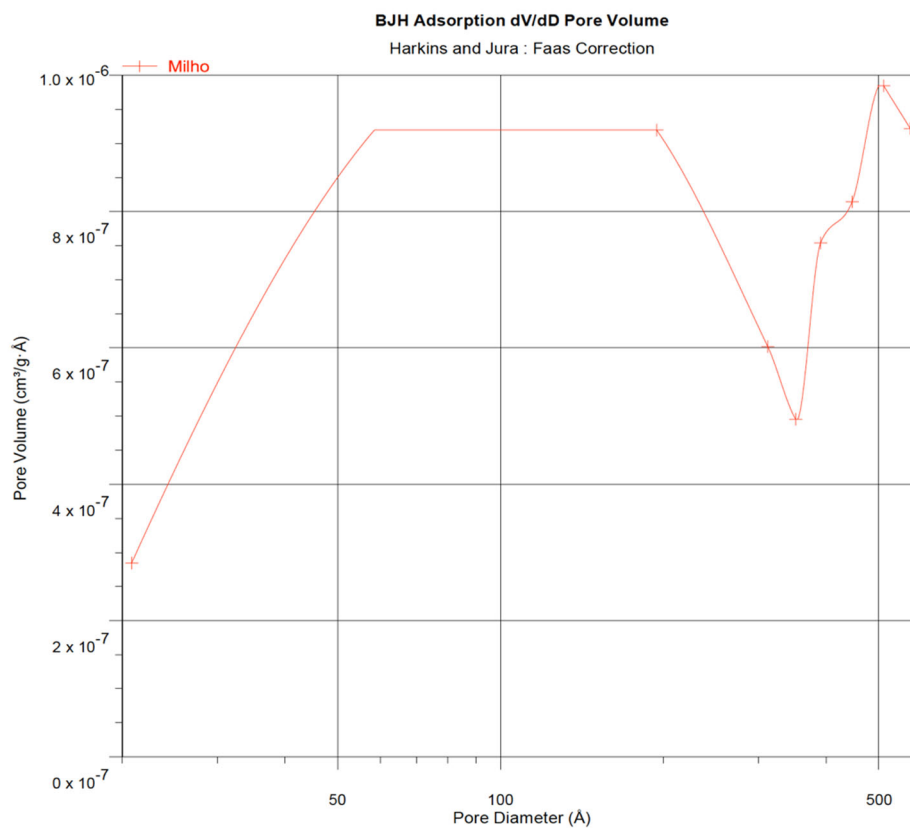


Figure S3. BJH Adsorption dV/dD Pore Volume of defatted corn cob.

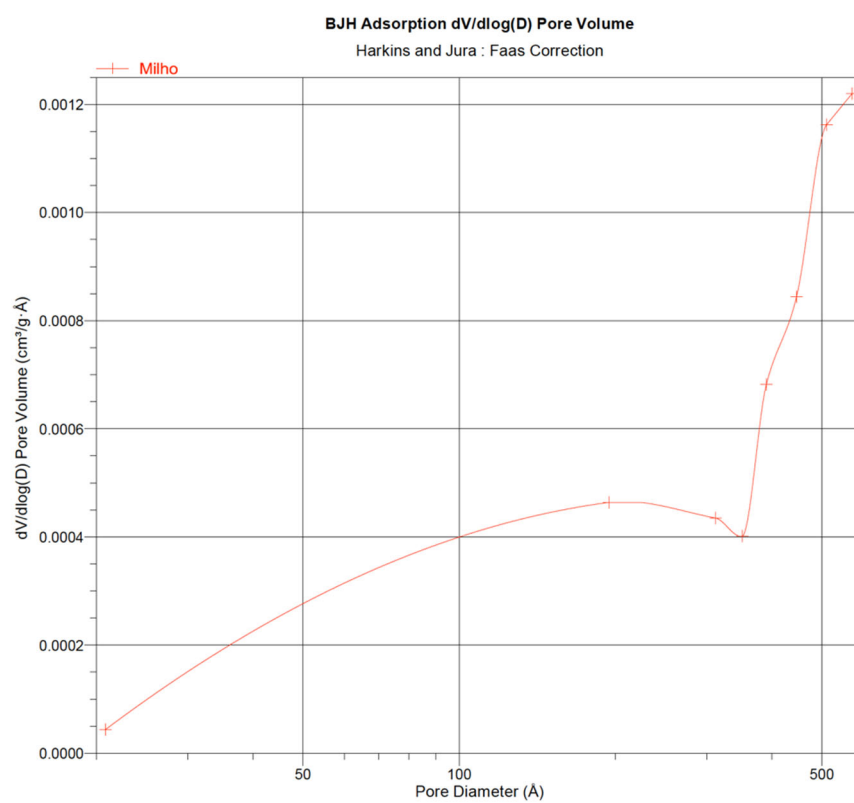


Figure S4. BJH Adsorption $dV/d\log(D)$ Pore Volume.