

**Characterizing phenol-removing consortia under methanogenic and sulfate-reducing conditions: Potential metabolic pathways**

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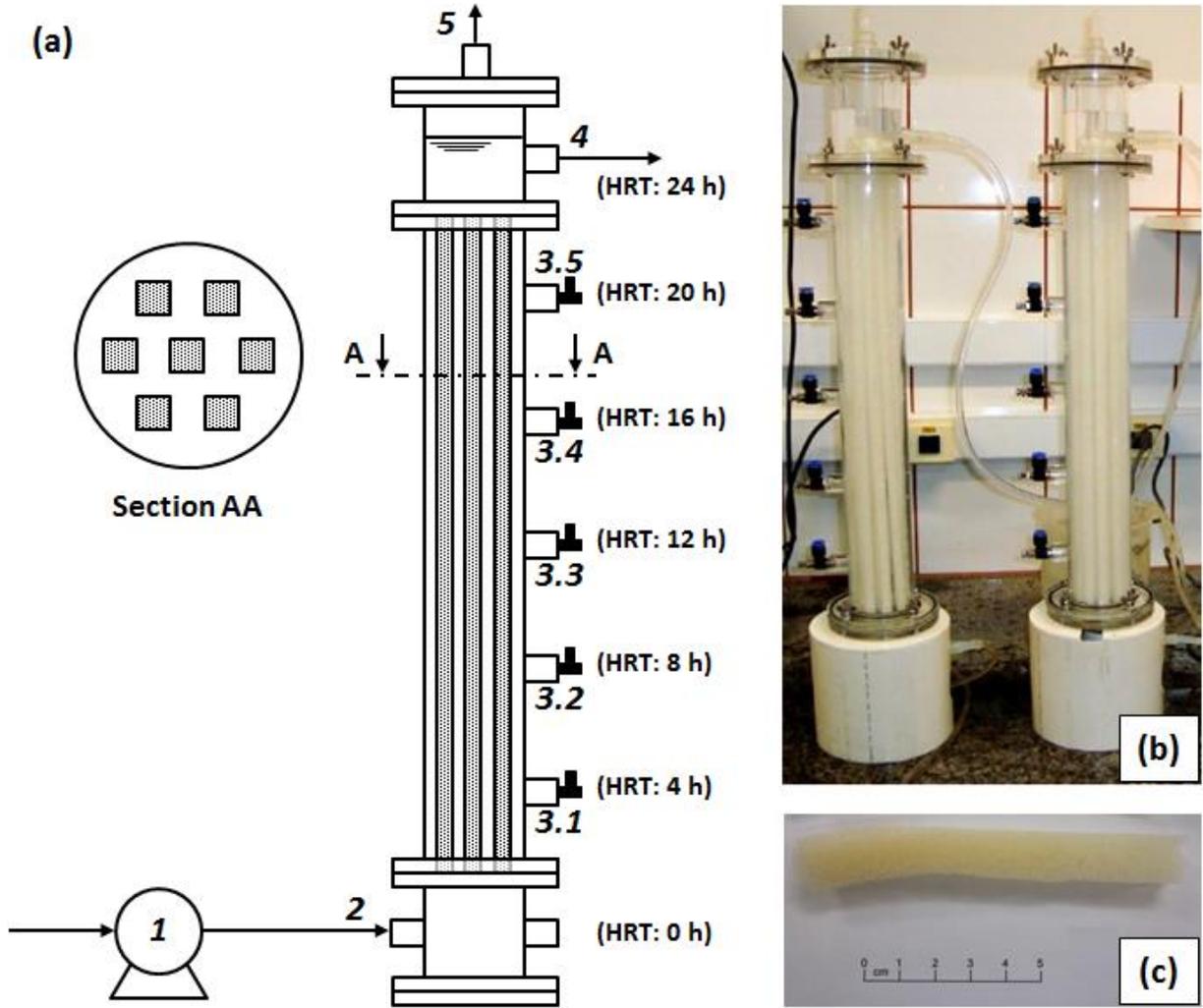
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**Description:** This section brings complementary information on the experimental apparatus used in the operation of the anaerobic fixed-structured bed reactors (AFSBR), details on the composition of the carbohydrate-rich synthetic wastewater (CRSW) and the Venn diagram showing the unique and shared genera for the biomass from R1, R2 and Inoculum samples.

S1. Experimental apparatus (bench-scale reactors)



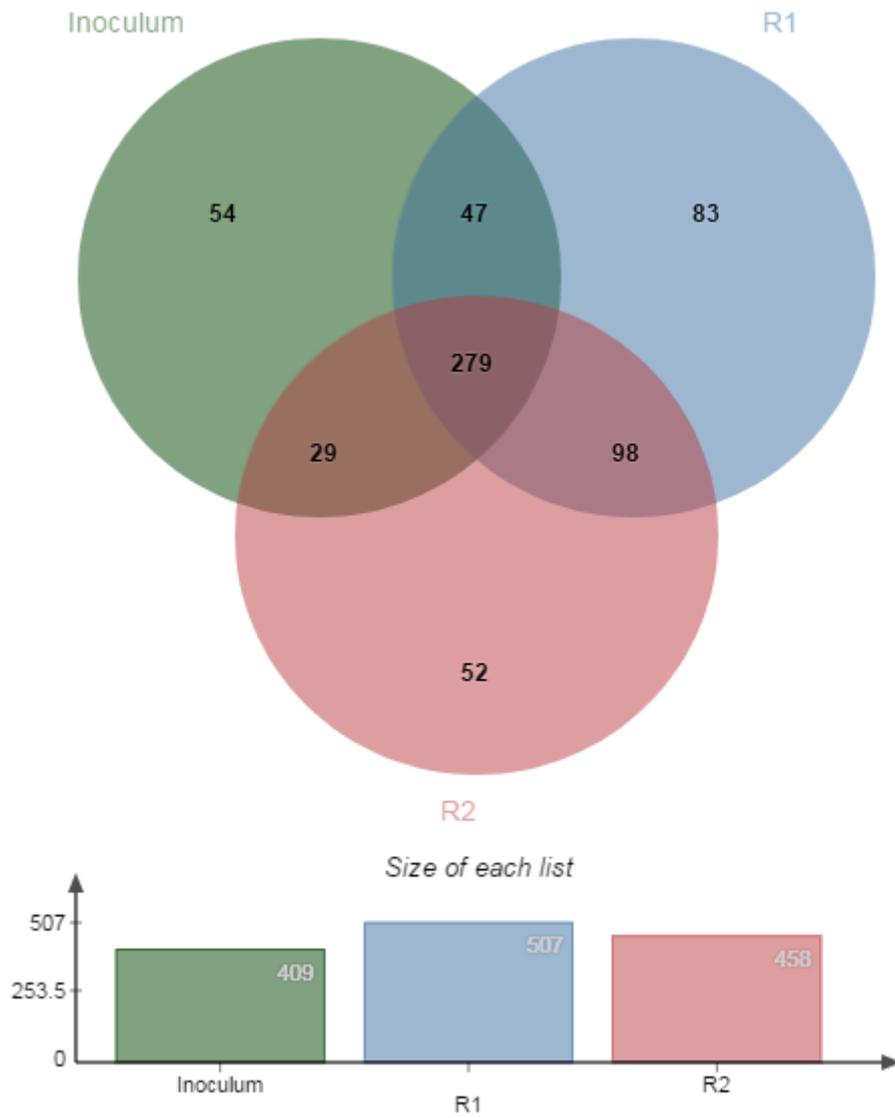
**Figure S1.** Details of the experimental apparatus: (a) sketch of the AFSBR, (b) arrangement of the polyurethane foam strips in the ASFBRs and (c) detail of the polyurethane foam strip. Legend: 1- peristaltic pump, 2- influent inlet (raw CRSW), 3.1 to 3.5- sampling ports, 4- effluent outlet and 5- biogas outlet.

**S2. Composition of the CRSW****Table S1.** Compositional characterization of the CRSW according to the operating phase.

Component	Concentrations (mg L <sup>-1</sup> )		
	Phase I	Phase II	Phases III–V <sup>a</sup>
COD <sub>Soluble</sub>	1,000	2,000	4,000
Sucrose (C <sub>12</sub> H <sub>22</sub> O <sub>11</sub> )	560	1,250	2,700
Ethanol (CH <sub>3</sub> CH <sub>2</sub> OH)	60	160	380
Phenol (C <sub>6</sub> H <sub>5</sub> OH)	120	120	120
NH <sub>4</sub> Cl	64.09	128.18	256.35
KCl	185.58	371.15	742.30
KH <sub>2</sub> PO <sub>4</sub>	21.09	42.18	84.36
CaCl <sub>2</sub> .2H <sub>2</sub> O	22.93	45.85	91.70
NaCl	32.125	64.25	129.50
MgCl <sub>2</sub> .6H <sub>2</sub> O	54.9	109.8	219.60
FeCl <sub>3</sub> .6H <sub>2</sub> O	1.53	3.06	6.12
MnCl <sub>2</sub> .4H <sub>2</sub> O	0.33	0.66	1.31
CuCl <sub>2</sub> .2H <sub>2</sub> O	0.03	0.06	0.12
ZnCl <sub>2</sub>	0.025	0.05	0.10
NiCl <sub>2</sub> .6H <sub>2</sub> O	0.025	0.05	0.10
PbCl <sub>2</sub>	0.01	0.02	0.04
CdCl <sub>2</sub> .H <sub>2</sub> O	0.003	0.005	0.01
LiCl	0.0003	0.0005	0.001
NTA (C <sub>6</sub> H <sub>9</sub> NO <sub>6</sub> )	0.27	0.54	1.07

Note: <sup>a</sup> According to Godoi et al. (2015).

**S3. Venn Diagram**



**Figure S2.** Venn diagram showing the unique and shared genera from taxonomic profile among the R1, R2 and Inoculum samples.

**S.4 References**

Godoi, L.A.G., Damianovic, M.H.R.Z., Foresti, E., 2015. Sulfidogenesis interference on methane production from carbohydrate-rich wastewater. *Water Sci. Technol.* 72, 1644–1652.