

Influence of Cellulose on Anoxic Treatment of Domestic Wastewater in Septic Tank: Statistical Analysis of The Chemical and Physico-Chemical Parameters

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SUPPLEMENTARY MATERIALS:

Equation S1. Equation of Van't Hoff–Arrhenius [34].

$$K_T = K_{20} \Theta^{(T-20)}$$

K_T : coefficient of reaction rate at T ;

K_{20} : coefficient of reaction rate at 20 °C;

Θ : coefficient of temperature activity;

T : temperature.

Table S1. Average water consumption for domestic use. Data elaborated from [24].

Domestic use	Average daily consumption (%)
WC (4 L water flusher according to EN 14055+A1 91 4640 is needed for 6 times flash + 0.4 kg of faeces + 1.6 L urine)	24
Personal hygiene, showering	39
Laundry, cleaning	17
Food preparation, washing dishes	9
Hand washing	6
Drink	2
Other	5

Table S2. List of drugs in the wastewater samples and their mass fractions. *: These values referred to the dosage in each 20 L of WW.

Pharmaceutical product	Type	Components and dosages *
Yaz (Bayer HealthCare Pharmaceuticals, Berlin, Germany)	Contraceptive	27.3 µg L ⁻¹ of drospirenone and 0.2 µg L ⁻¹ of ethinyl estradiol
Probiotik	Probiotic	4.5 µg L ⁻¹ of lyophilized live probiotic bacteria: Lactobacillus acidophilus Rosell-52, Lactobacillus rhamnosus Rosell-11, Bifidobacterium longum Rosell-17

Doksicilin (Mylan N.V., Canonsburg, Pennsylvania, United States)	Antibiotic	2.27 mg L ⁻¹ of doksiciklin-hiklata against the following strains of bacteria: Streptococcus pneumoniae, Haemophilus influenzae, Klebsiella pneumoniae, Moraxella catarrhalis, Mycoplasma pneumoniae, Klebsiella species, Enterobacter species, Escherichia coli, Streptococcus faecalis, Chlamydia trachomatis, Ureaplasma urealyticum (T-mycoplasma), Calymmatobacterium granulomatis
Ibuprofen (BASF Corporation, New Jersey, U.S.A.)	Analgesic	9.09 mg L ⁻¹ of ibuprofen
Propranolol (Bristol Laboratories Ltd, Berkhamsted, UK)	Beta blocker	454.5 µg L ⁻¹ of propranolol-hydrochloride
Aspirin (Bayer HealthCare Pharmaceuticals, Berlin, Germany)	Antipyretic	4.5 mg L ⁻¹ of acetylsalicylic acid
Pantoprazole (Abbott Laboratories, Chicago, Illinois, Stati Uniti)	Gastric protector	454.5 µg L ⁻¹ of pantoprazole in the form of Pantoprazole sodium, sesquihydrate
Amoksiklav (Lek d. d., Ljubljana, Slovenia)	Antibiotic	11.36 mg L ⁻¹ of amoxicillin in the form of Amoxicillin trihydrate and 2.84 mg L ⁻¹ of clavulanic acid in the form of potassium clavulanate

Table S3. Mean and confidence interval (C.I.) of parameters monitored during the three months of tests of the pilot plants.

Parameter	CWW		NCWW	
	Mean	C.I.	Mean	C.I.
T [° C]	21.8	0.5	21.4	0.5
EC [µS cm ⁻¹]	2710.7	78.8	2352.1	64
TUR [NTU]	676.5	128.7	634.3	106.1
COL [°Pt-Co]	6500	1017.3	8207.1	1115.9
TSS [mg L ⁻¹]	530.9	119.3	666.6	90.5
pH [-]	7.2	0.2	7.3	0.2
COD [mg L ⁻¹]	5263.1	1693.6	4078.3	998.2
N-NH ₃ [mg L ⁻¹]	92.5	10.6	76.3	8.9
N-NO _x [mg L ⁻¹]	19.9	7	7.3	2.3

References

24. PVK Prague Waterworks and Sewerage: Everything about Water/Drinking Water (in Czech) Available online: <https://www.pvk.cz/vse-o-vode/pitna-voda/> (accessed on 14 March 2023).
34. Alisawi, H.A.O. Performance of Wastewater Treatment during Variable Temperature. *Appl Water Sci* **2020**, *10*, 89, doi:10.1007/s13201-020-1171-x.