Tables Caption

Table 1: Matrix Formulation of the Aerobic Microbial Transformations of Wastewater Organic Matter in an OUR Batch Experiment. The Formulation Shown Includes Two Fractions of Hydrolysable Substrate (Vollertsen, 1999)

Table 2 : Variation in Y_H values for various storm events

Table 3: Variation in q_m and μ_H values for various storm events

Table 4: Composition of wastewater for the various storm events

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	Component j	1	2	3	5	6	
i	Process	S_S	$X_{S,fast}$	$X_{S,slow}$	X_B	$-S_O$	Process rate
1	Aerobic growth	$\frac{-1}{Y_H}$			1	$\frac{1-Y_H}{Y_H}$	$\mu_H \frac{S_S}{K_S + S_S} X_B$
2	Maintenance energy requirement	-1			-1*	1	$q_m X_B$
3	Hydrolysis, fast	1	-1				$k_{h,fast} \frac{X_{S,fast}/X_B}{K_{X,fast} + X_{S,fast}/X_B} X_B$
4	Hydrolysis, slow	1		-1			$k_{h,slow} \frac{X_{S,slow}/X_B}{K_{X,slow} + X_{S,slow}/X_B} X_B$

*if S_S is insufficient, the remaining substrate for maintenance energy requirement is supplied by endogenous respiration

Table 2 : Variation in Y_H values for various storm events

Date	07/09/01	15/09/01	21/09/01	04/11/01	Std Deviation
Time, min	Y_H, g COD/g COD	Y_H, g COD/g COD	Y_H, g COD/ g COD	Y_H, g COD/g COD	
0 – 10	0.83	0.94	0.78	0.55	0.164
10 – 20	0.76	0.89	0.75	0.33	0.243
20 – 30	0.7	0.85	0.77	0.68	0.077
30 – 40	-	-	-	-	-

Table 3: Variation in q_m and μ_H values for various storm events

Date	07/09/01	15/09/01	21/09/01	04/11/01	Std Deviation	07/09/01	15/09/01	21/09/01	04/11/01	Std Deviation
Time, min	q_m,d^{-1}					μ_H, d^{-1}				
0 – 10	1.58	0.76	0.57	0.49	0.500	7.3	4.65	2.15	1.72	2.577
10 – 20	0.31	0.18	1.91	0.74	0.787	1.44	1.16	6.33	1.31	2.516
20 – 30	0.68	0.42	0.75	0.33	0.202	2.86	2.36	3.1	1.04	0.920
30 – 40	-	-	-	-	-	-	-	-	-	-

Table 4: Composition of wastewater for the various storm events

Date	07/09/01				
Time, min	S_S, g COD/m^3	X_B, g COD/m^3	X_{S1}, g COD/m^3	X_{S2}, g COD/m^3	COD total
0 – 10	47.06	2.13	90.88	47.93	188
10 – 20	6.25	1.53	2.92	131.3	142
20 – 30	4.67	1.21	4.67	63.45	74
30 – 40	-	-	-	-	45
Date	15/09/01				
Time, min	S_s, g COD/m^3	X_B, g COD/m^3	X_{S1}, g COD/m^3	X_{S2}, g COD/m^3	COD total
0 – 10	100	12.01	666.66	50.3	829
10 – 20	29.09	6.83	144.08	293	473
20 – 30	8	2.96	73.167	11.87	96
30 – 40	-	-	-	-	113
Date	21/09/01				
Time, min	S_s, g COD/m^3	X_B, g COD/m^3	X_{S1}, g COD/m^3	X_{S2}, g COD/m^3	COD total
0 – 10	25.45	5.02	77.27	826	933
10 – 20	18	1.46	23.4	587	630
20 – 30	15.78	1.72	8.78	25.72	52
30 – 40	-	-	-	-	19
Date	04/11/01				
Time, min	S_s, g COD/m^3	X_B, g COD/m^3	X_{S1}, g COD/m^3	X_{S2}, g COD/m^3	COD total
0 – 10	3.11	0.94	1.33	48.86	84
10 – 20	4.25	0.36	9.7	337.7	352
20 – 30	23.44	0.2	11.5	511.6	517
30 – 40	-	-	-	-	415

Figure Captions

Figure 1: Experimental set up at the Frejlev Monitoring Station, Denmark

Figure 2: Concept for characterisation of wastewater organic matter applying aerobic heterotrophic transformations of wastewater (Vollersten & Hvitved-Jacobsen, 1998)

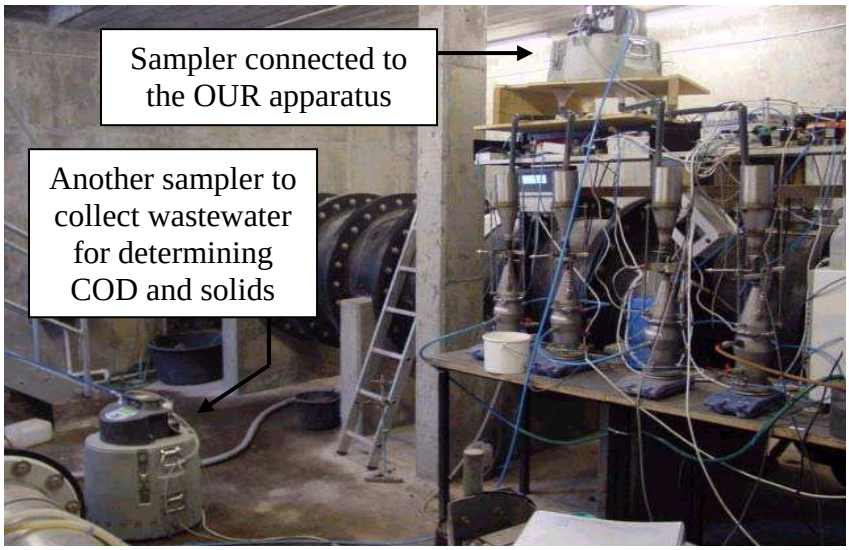
Figure 3: Various information obtained from an OUR curve

Figure 4: OUR profile during 4 storm events at Frejlev, Denmark for (a) 07-09-2001 (b) 15-09-2001 (c) 21-09-2001 (d) 04-11-2001

Figure 5: OUR profile during 3 storm events at Frejlev, Denmark (a) 01-02-1999 (b) 15-02-1999 (c) 24-02-1999

Figure 6: Variation of Easily biodegradable substrate with TSS and Total COD during storm events at Frejlev, Denmark (a) 07/09/01 (b)15/09/01 (c) 21/09/01 (d) 04/11/01

Figure 7: Variation of Easily biodegradable substrate with TSS and Total COD during storm events at Frejlev, Denmark (a) 03/02/99 (b) 15/02/99 (c) 25/02/99



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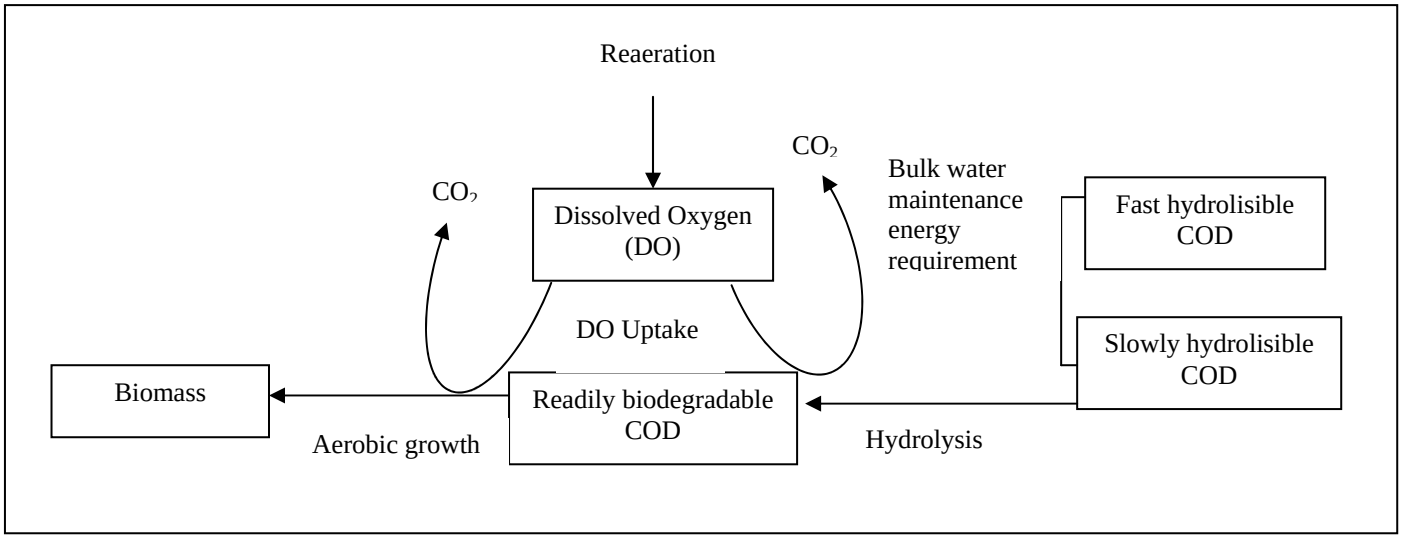

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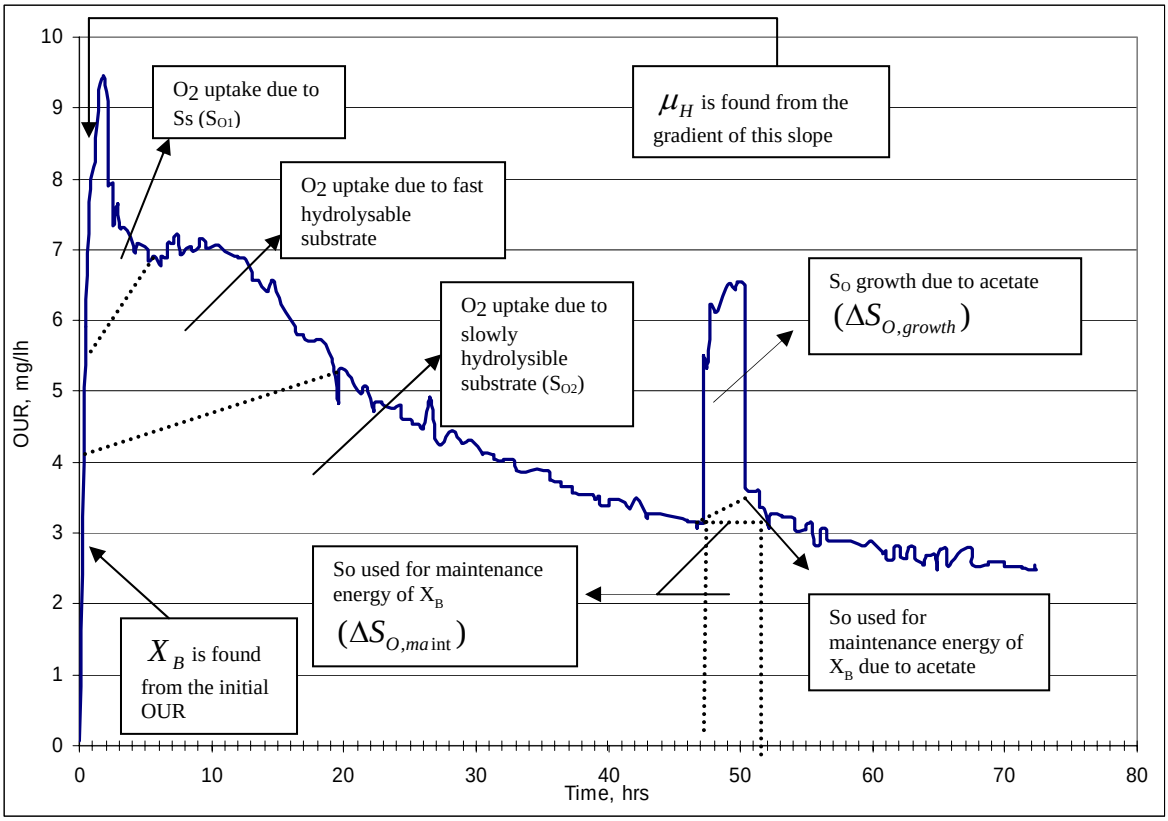

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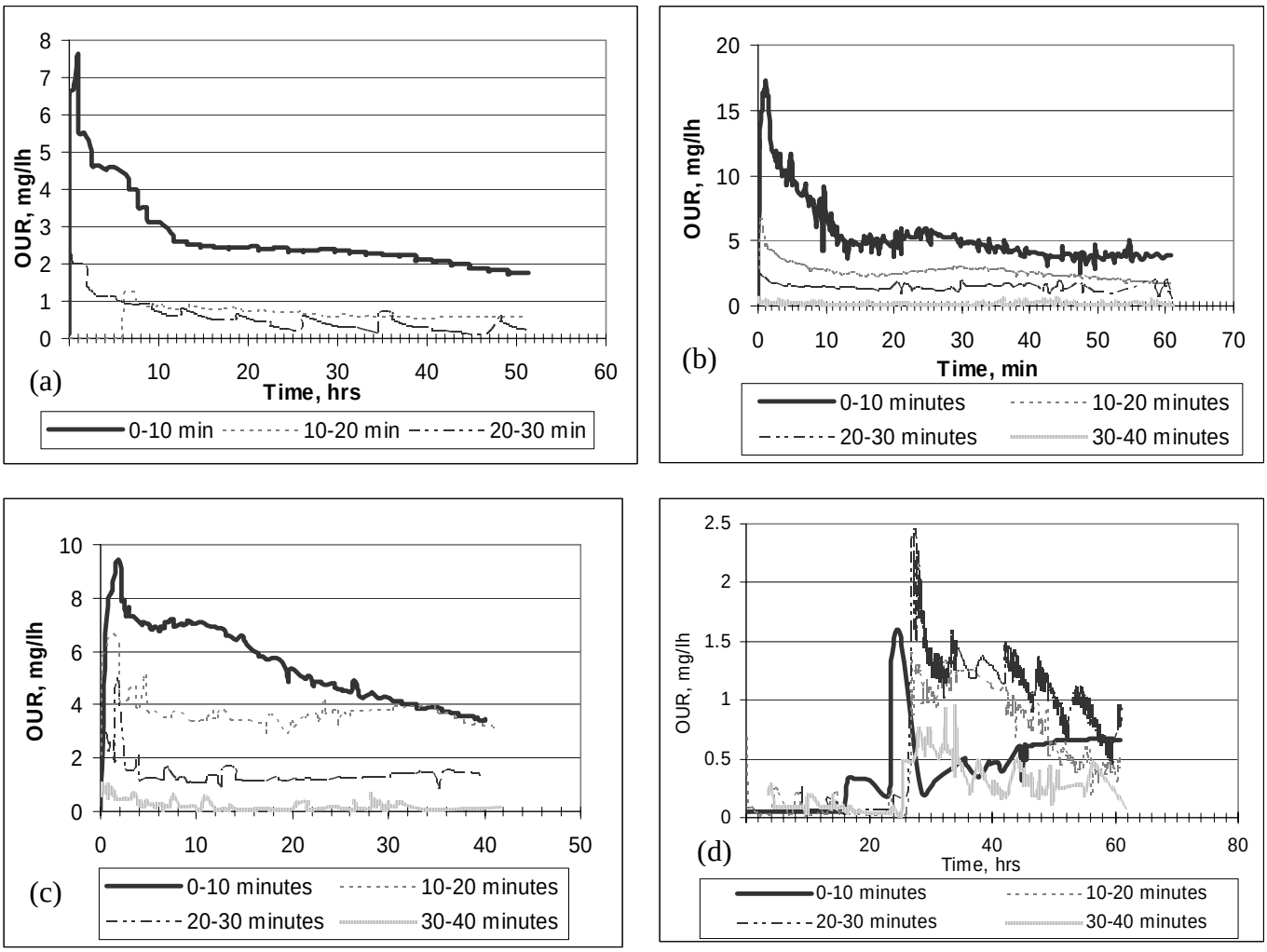

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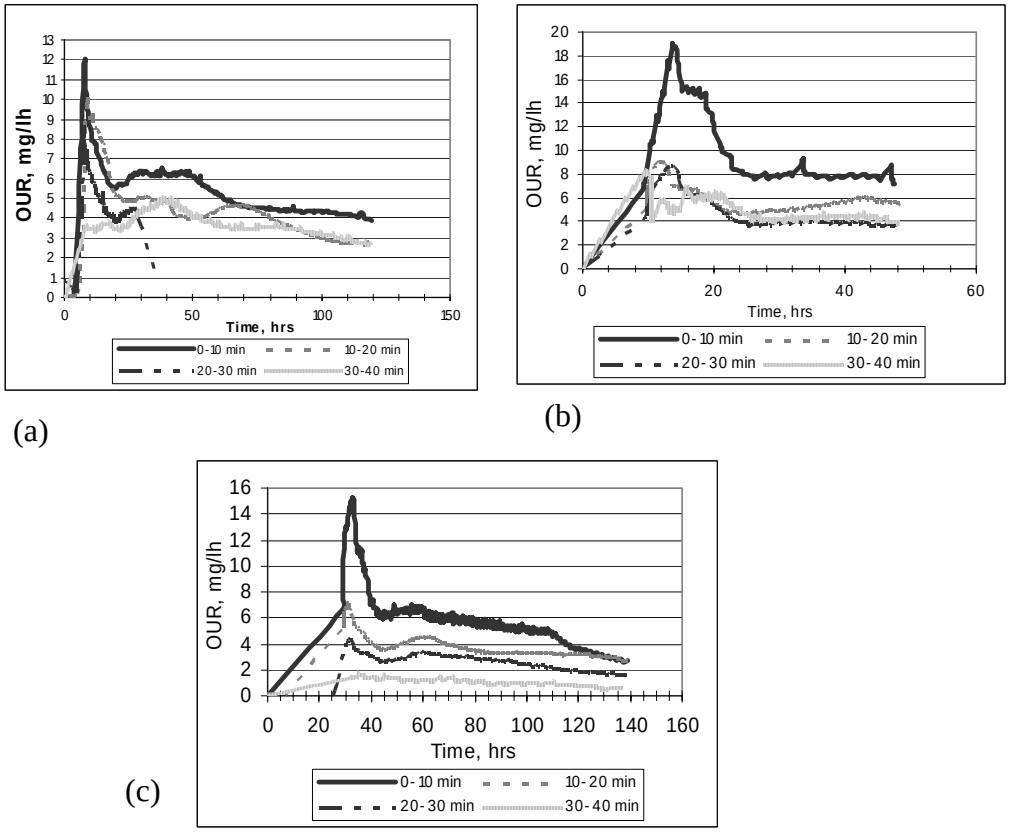

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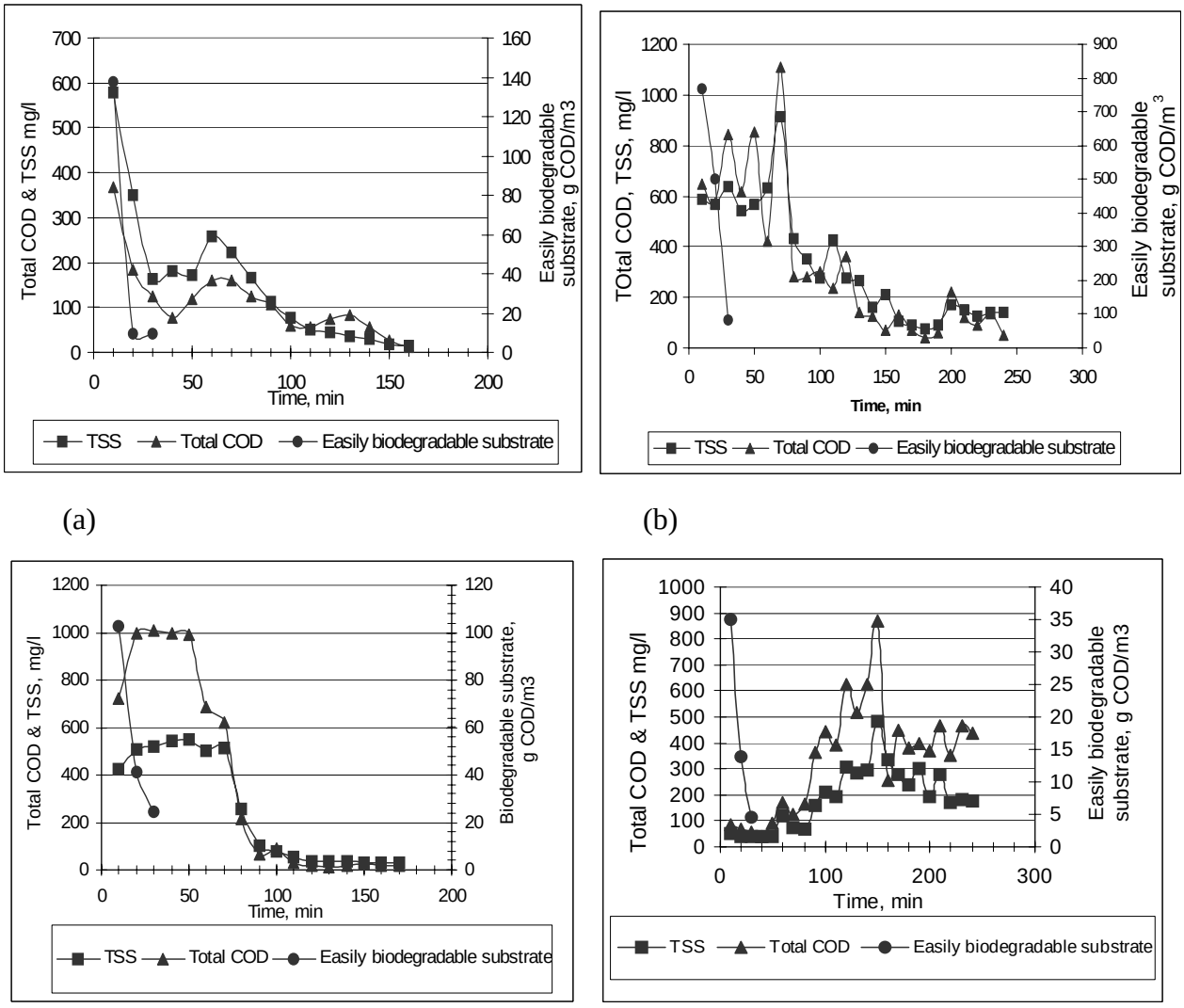

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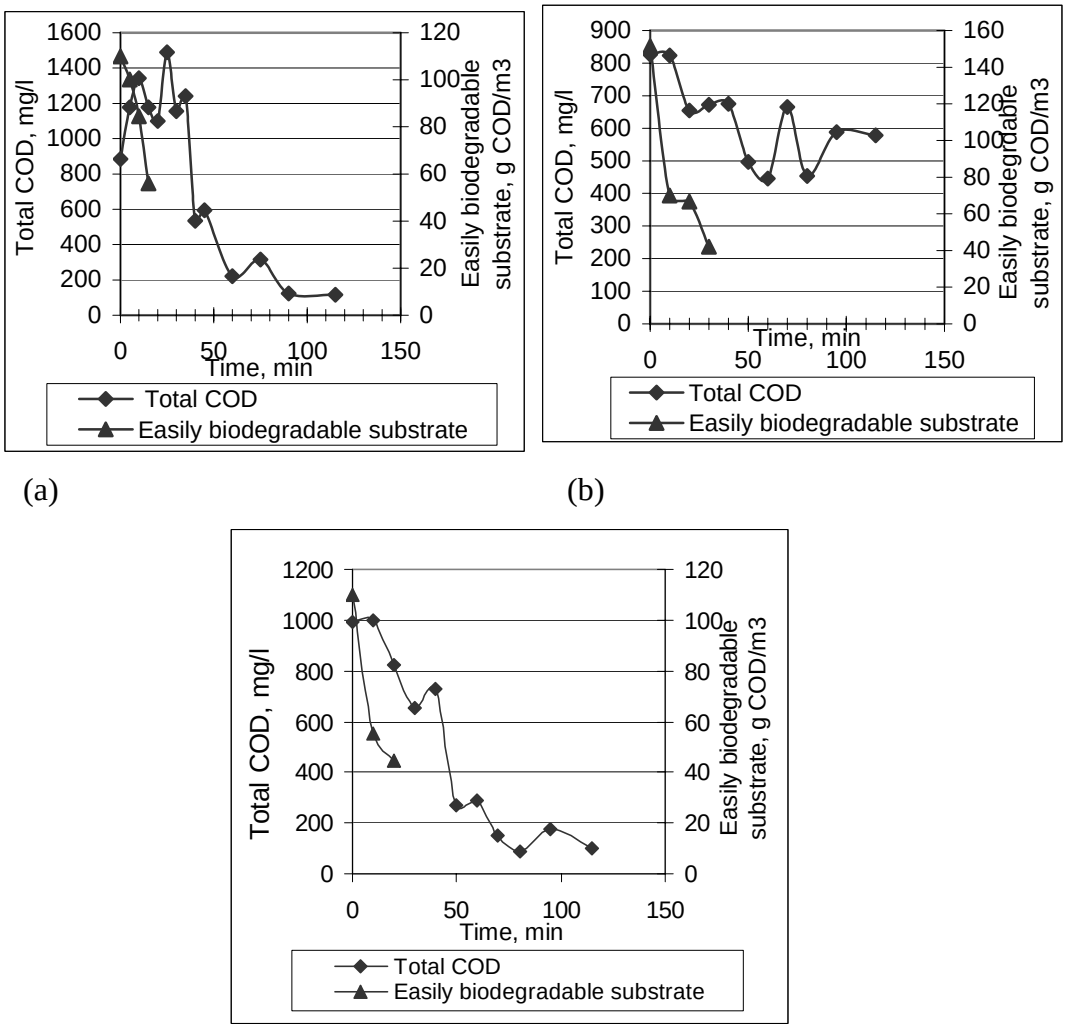

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