

Answers to Problems

3-2 $k(1/d)=0.1$
(a) [d] 23 (b) [d] 46 (c) [d] 69

3-3 $k(\mu g/(L \text{ min}))=1$ 999 min 16.65 h

3-4 (a)一次 (b)二次

3-6 (a)一次 (b)二次 (c) $1.36E-03 [s]$
 $k[L/(mol \text{ s})] 5.10E+06$

Time [d]	0	1	3	5	7	10
Conc.	1	0.81	0.56	0.36	0.22	0.14
X	0	0.19	0.44	0.64	0.78	0.86
$-\ln(1-X)$	0	0.210721	0.5798185	1.021651	1.514128	1.966113

(a) 一次
(b) 0.20 [1/d]
(c) 3.4 days
0.204248

(a)	Half life [y]
Chloroform	$1.85E+03$
TCE	1.06

y/min= 525945.6
(b) Chloroform

3-18 (a) g/m^3 3.24
(b) 1,4-DCB

3-19 chloroform

3-20 $4.77E-04 \text{ mol/L}$ 15.28 mg/L

3-21 From the water into air
 $p(\text{atm})=7.34E-12$
 $C_{pcb}(\text{pmol/L}) 73 < 100$

3-23 $1.0E-05 \text{ mol/L}$

追加演習

S3-1 蒸発水量 600 kg 濃縮液量 400 kg

S3-2 440 kg

S3-3	酸素 二酸化炭素	300 kg 550 kg	(2)	CO CO2	2.3E+03 kg 1.5E+04 kg
S3-4	凝縮水	1.6E+03 g	水蒸気濃度		7.67 g/m3
S3-5		1.81 mol・L-1・atm-1			
S3-6		7			
S3-7		2.2E+02 ml			
S3-8		1.6E-04 mol/L			
S3-11	(1)	4.0E-02 mol/L	1.4	(2)	4.0
	(3)	2.0E-02 mol/L	12.3	(4)	10
	(5)	5.0E+02 ml			
S3-12	(1)	12 N		(2)	6.0 mol/L
	(3)	2.0 mol/L			
S3-13	電離度	1.7E-02 pH	2.8		
	(1)	1.2E-02	(2)		11