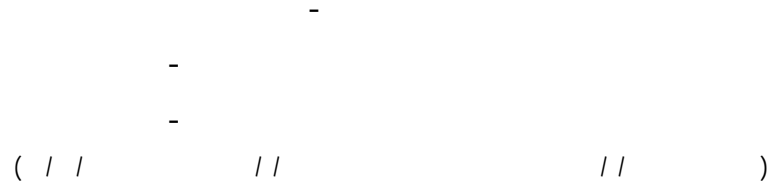
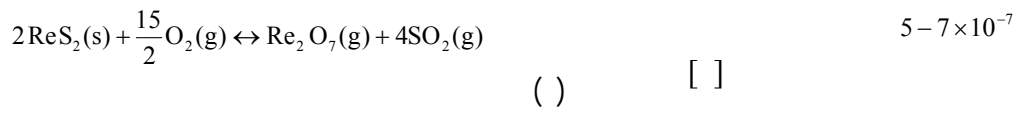


*



	()	()	()
()	$\Delta G_{app}^{\circ} = 56.781 - 0.274 T$	()	()
	$\Delta G_{app}^{\circ} = 50.205 - 0.247 T$	()	$\Delta G_{app}^{\circ} = 53.047 - 0.257 T$



[-]

D_{Re}

$\alpha_{\text{Cl}}^{\text{Re}}$

[]

$D_{\text{Re}} = \frac{y_{\text{Re}} \cdot Q}{x_{\text{Re}} \cdot C} = \frac{q_{\text{Rem}}}{C_{\text{Rem}}}$

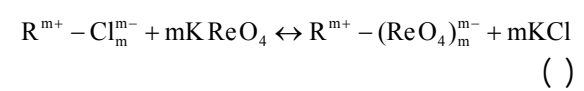
()

$$K_a = \frac{a'_{\text{ReO}_4} \times a_{\text{KCl}}^m}{a'_{\text{Cl}} \times a_{\text{KReO}_4}^m} \quad \alpha_{\text{Cl}}^{\text{Re}} = \frac{D_{\text{Re}}}{D_{\text{Cl}}} = \frac{y_{\text{Re}}(1-x_{\text{Re}})}{x_{\text{Re}}(1-y_{\text{Re}})} \quad (1)$$

a' a x_{Re} y_{Re}
 C Q
 Cl Re

$$K_{\text{Cl}}^{\text{Re}} = \frac{[q_{\text{Rem}}] \cdot [C_{\text{Clm}}]^m}{[q_{\text{Clm}}] \cdot [C_{\text{Rem}}]^m} \quad (2)$$

q_{Clm} q_{Rem} $K_{\text{Cl}}^{\text{Re}}$ $K_{\text{Cl}}^{\text{Re}}$ K_a $K_{\text{Cl}}^{\text{Re}}$
 $R - Cl + KReO_4 \leftrightarrow R - ReO_4 + KCl$



() [] : []

.....

[] :

Amberlite		Varion		Purolite	
ρ (kg / liter)	Q(eq / liter)	ρ (kg / liter)	Q(eq / liter)	ρ (kg / liter)	Q(eq / liter)
/	/	/	/	/	/

K :

C_{Re}^0	C_{Re}^e (Amb)	C_{Re}^e (Pur)
/	/	/
/	/	/
*	/	/
/	/	/
/	/	/
/	/	/
/	/	/

*

() :

	C_{Re}^0 (ppm)	C_{Re}^e (Amb.)	C_{Re}^e (Pur.)
/		/	/
/		/	/
/		/	/
/		/	/
/		/	/

:

(°C)	C_{Re}^e (Amb.)	C_{Re}^e (Var.)	C_{Re}^e (Pur.)
* / - /	/	/	/
* / - /	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/ /	/	/
/	/	/	/

*

rpm ()

\pm °C rpm / gr ()

ICP

ml

$$A + Bm = \log K_{Cl}^{Re} \quad () \quad \text{Unicam 8700}$$

$$A = \log D_{Re} - \log[q_{Clm}] + \log[C_{Rem}] \quad () \quad ()$$

$$B = \log[C_{Clm}] - \log[C_{Rem}] \quad () \quad ()$$

$$\frac{B}{A} = \frac{\log K_{Cl}^{Re} - m}{m} \quad ()$$

ppm

$$Re \text{ O}_4^- \text{ in Sol} \rightleftharpoons Re \text{ O}_4^- \text{ in Resin} \quad ()$$

$$\Delta G^\circ = -RT \ln \frac{q_{Rem} \cdot \gamma'}{C_{Rem} \cdot \gamma} \quad ()$$

$$q_{Rem} + q_{Clm} = Q_m \quad \left(\frac{\text{eq}}{\text{liter}} \right) \quad ()$$

$$\Delta G_{app}^\circ = -RT \ln D_{Re} = \Delta H_{app}^\circ - T \Delta S_{app}^\circ \quad ()$$

$$q_{Rem} = \frac{[(\text{ppm})_{Re}^{initial} - (\text{ppm})_{Re}^e] \times 0.15 \times \rho_{Resin}}{M_{Re} \cdot W_{Resin} \times 1000} \quad ()$$

$$\Delta S_{app}^\circ \quad \Delta H_{app}^\circ \quad [-] \quad ()$$

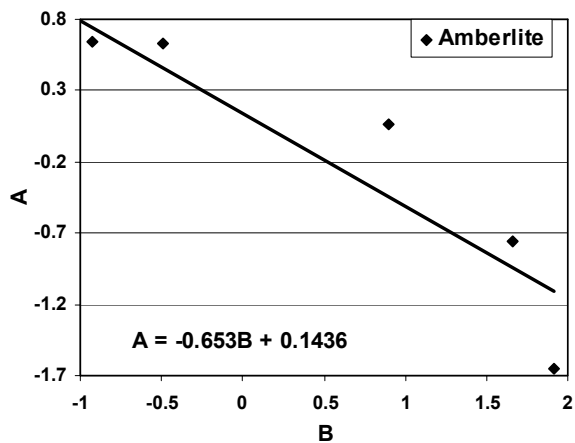
$$[C_{Clm}] = \frac{q_{Rem} \cdot W_{Resin}}{0.15 \rho_{Resin}} \quad ()$$

$$\Delta S_{app}^\circ \quad \Delta H_{app}^\circ \quad \Delta G_{app}^\circ \quad [C_{Rem}] = \frac{(\text{ppm})_{Re}^e}{1000 M_{Re}} \quad ()$$

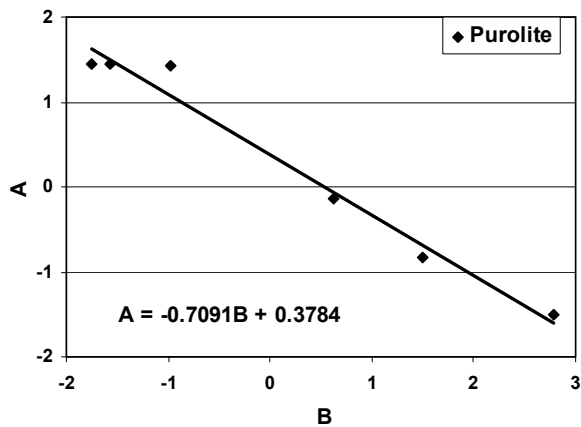
$$\frac{1000}{T} \quad \ln D_{Re} \quad ()$$

. B A :

Amberlite		Purolite	
A	B	A	B
- /	/	- /	/
- /	/	- /	/
/	/	- /	/
/	- /	/	- /
/	- /	/	- /
/	- /	/	- /



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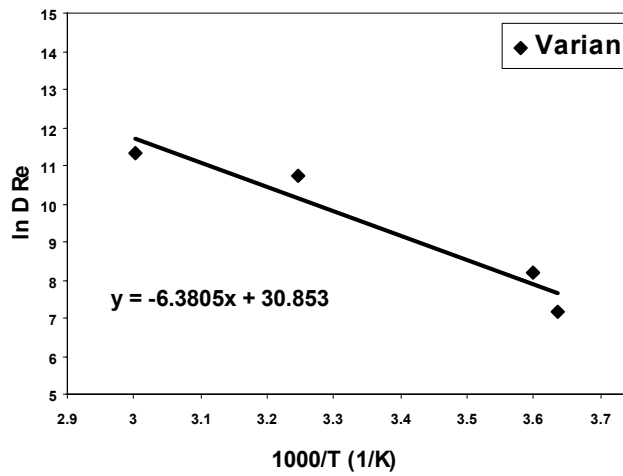
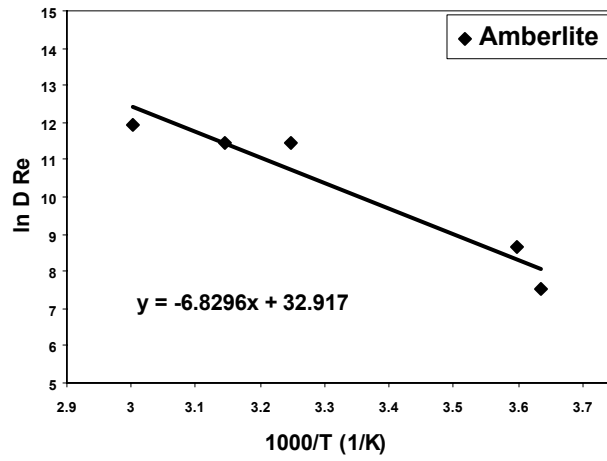
. K_{Cl}^{Re} m :

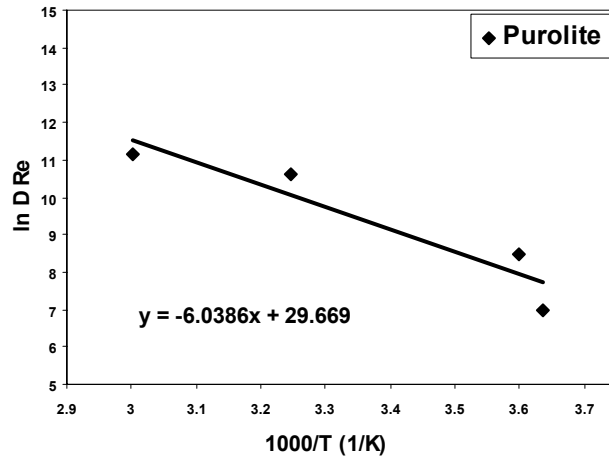
Amberlite		Purolite	
m	K_{Cl}^{Re}	m	K_{Cl}^{Re}
/	/	/	/

() () ()

()

$\frac{1000}{T}$	$\ln D_{Re}$		
	Amberlite	Varion	Purolite
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/





$\Delta G_{app}^{\circ} \left(\frac{J}{mol} \right)$	$\Delta S_{app}^{\circ} \left(\frac{kJ}{mol \cdot K} \right)$	$\Delta H_{app}^{\circ} \left(\frac{kJ}{mol} \right)$	
/ - / T	/	/	Amberlite
/ - / T	/	/	Varion
/ - / T	/	/	Purolite

$$\left(\frac{Q}{C_0} \quad \frac{q}{C} \right)$$

:D

: K_a

: K_C

: K_{mB}^A

: K_B^A

$$\frac{keq}{m^3}$$

q

()

$$\frac{kmol}{m^3}$$

: q_m

: Q

: T

()

: x

: y

: α_B^A

: γ

$$\frac{kg}{m^3}$$

: ρ

$$\frac{keq}{m^3}$$

:C

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- 1 - Amberlite
 - 2 - Varion
 - 3 - Purolite
 - 4 - Inductive Coppled Plasma
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