



กิจกรรมที่ 3 เรื่อง E°_{cell} ของฉันทนุโยโท

กำหนดค่า E° ให้ดังนี้ (ศักย์ไฟฟ้ามาตรฐานของครึ่งเซลล์รีดักชัน)

$\text{Cl}_2(\text{g}) + 2\text{e}^- \rightarrow 2\text{Cl}^-(\text{aq})$	$E^\circ = +1.36 \text{ V}$
$\text{Br}_2(\text{g}) + 2\text{e}^- \rightarrow 2\text{Br}^-(\text{aq})$	$E^\circ = +1.07 \text{ V}$
$\text{Ag}^+(\text{aq}) + \text{e}^- \rightarrow \text{Ag}(\text{s})$	$E^\circ = +0.80 \text{ V}$
$\text{Cu}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Cu}(\text{s})$	$E^\circ = +0.34 \text{ V}$
$\text{Pb}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Pb}(\text{s})$	$E^\circ = -0.13 \text{ V}$
$\text{Zn}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Zn}(\text{s})$	$E^\circ = -0.76 \text{ V}$
$\text{Au}^+(\text{aq}) + \text{e}^- \rightarrow \text{Au}(\text{s})$	$E^\circ = +1.68 \text{ V}$
$2\text{H}^+(\text{aq}) + 2\text{e}^- \rightarrow \text{H}_2(\text{g})$	$E^\circ = 0.00 \text{ V}$
$\text{Co}^{2+}(\text{aq}) + 2\text{e}^- \rightarrow \text{Co}(\text{s})$	$E^\circ = -0.28 \text{ V}$

จงหาค่าศักย์ไฟฟ้ามาตรฐานของเซลล์ (E°_{cell})

คำชี้แจง ให้นักเรียนทำอักษรหน้าค่า E°_{cell} ทางขวามือ มาใส่ไว้หน้าแผนภาพเซลล์กัลวานิกทางซ้ายมือที่สัมพันธ์กัน

___ 1. $\text{Ag}(\text{s}) \mid \text{Ag}^+(\text{aq}) \parallel \text{Au}^+(\text{aq}) \mid \text{Au}(\text{s})$	A. $E^\circ_{\text{cell}} = +0.76$	M. $E^\circ_{\text{cell}} = +1.08$
___ 2. $\text{Zn}(\text{s}) \mid \text{Zn}^{2+}(\text{aq}) \parallel \text{H}^+(\text{aq}) \mid \text{H}_2(\text{g}) \mid \text{Pt}(\text{s})$	B. $E^\circ_{\text{cell}} = -0.76$	N. $E^\circ_{\text{cell}} = +0.63$
___ 3. $\text{Co}(\text{s}) \mid \text{Co}^{2+}(\text{aq}) \parallel \text{Cl}^-(\text{aq}) \mid \text{Cl}_2(\text{g}) \mid \text{Pt}(\text{s})$	C. $E^\circ_{\text{cell}} = +0.46$	O. $E^\circ_{\text{cell}} = -0.89$
___ 4. $\text{Cu}(\text{s}) \mid \text{Cu}^{2+}(\text{aq}) \parallel \text{Ag}^+(\text{aq}) \mid \text{Ag}(\text{s})$	D. $E^\circ_{\text{cell}} = +1.14$	P. $E^\circ_{\text{cell}} = +1.20$
___ 5. $\text{Zn}(\text{s}) \mid \text{Zn}^{2+}(\text{aq}) \parallel \text{Pb}^{2+}(\text{aq}) \mid \text{Pb}(\text{s})$	E. $E^\circ_{\text{cell}} = -1.56$	Q. $E^\circ_{\text{cell}} = +0.94$
___ 6. $\text{Pb}(\text{s}) \mid \text{Pb}^{2+}(\text{aq}) \parallel \text{Br}^-(\text{aq}) \mid \text{Br}_2(\text{g}) \mid \text{Pt}(\text{s})$	F. $E^\circ_{\text{cell}} = +0.04$	R. $E^\circ_{\text{cell}} = +0.62$
___ 7. $\text{Ag}(\text{s}) \mid \text{Ag}^+(\text{aq}) \parallel \text{Zn}^{2+}(\text{aq}) \mid \text{Zn}(\text{s})$	G. $E^\circ_{\text{cell}} = +0.61$	S. $E^\circ_{\text{cell}} = +0.06$
___ 8. $\text{Co}(\text{s}) \mid \text{Co}^{2+}(\text{aq}) \parallel \text{Cu}^{2+}(\text{aq}) \mid \text{Cu}(\text{s})$	H. $E^\circ_{\text{cell}} = +0.28$	
___ 9. $\text{Pt}(\text{s}) \mid \text{Br}_2(\text{g}) \mid \text{Br}^-(\text{aq}) \parallel \text{Au}^+(\text{aq}) \mid \text{Au}(\text{s})$	I. $E^\circ_{\text{cell}} = -0.28$	
___ 10. $\text{Co}(\text{s}) \mid \text{Co}^{2+}(\text{aq}) \parallel \text{H}^+(\text{aq}) \mid \text{H}_2(\text{g}) \mid \text{Pt}(\text{s})$	K. $E^\circ_{\text{cell}} = +0.88$	
	L. $E^\circ_{\text{cell}} = +1.64$	

ชื่อ-นามสกุล.....ชั้น.....เลขที่.....