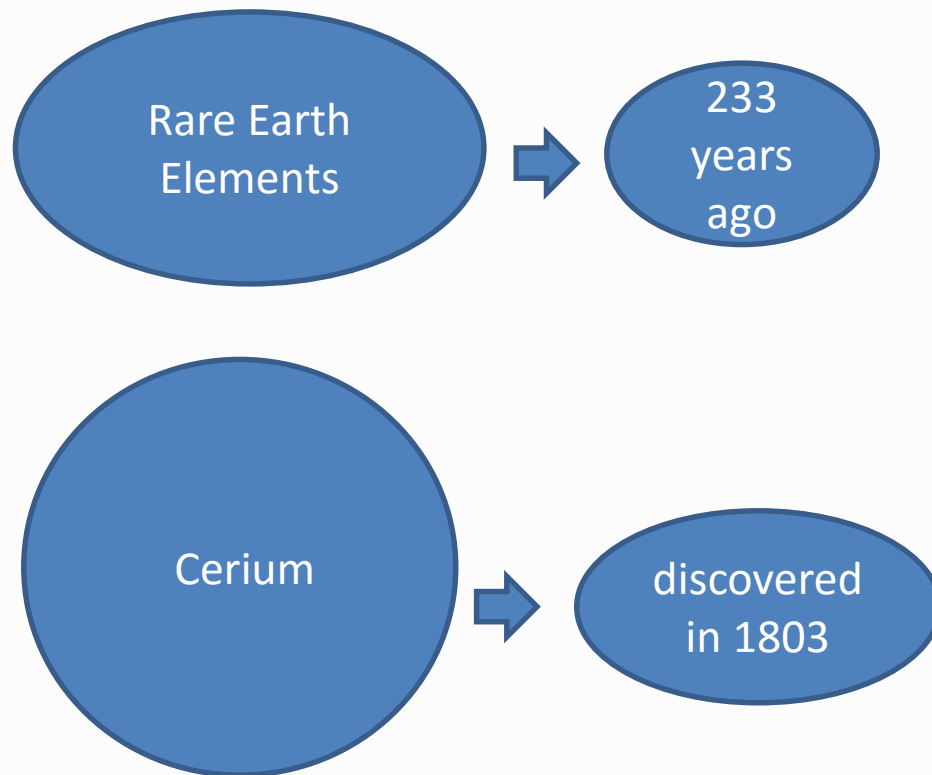


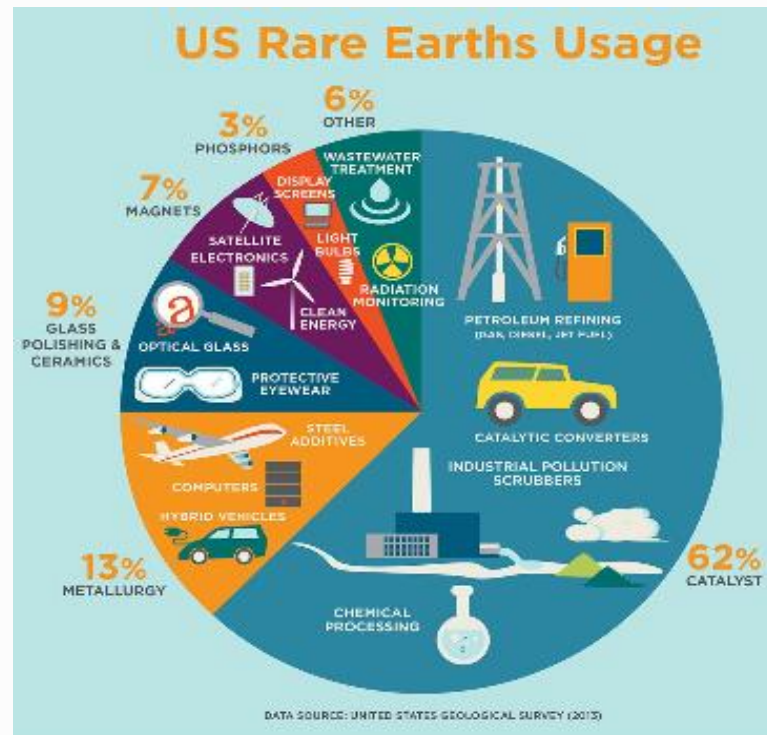
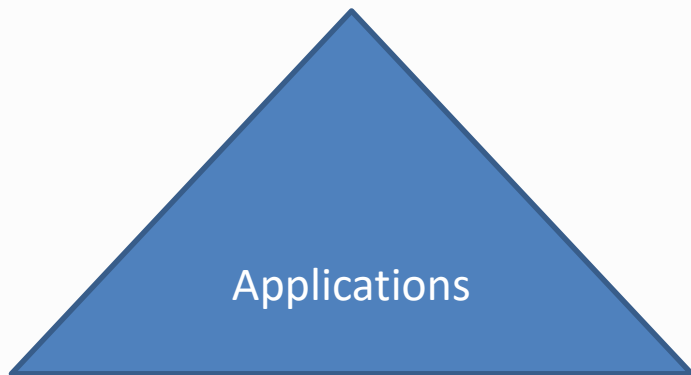
Manufacturing a new Selective Electrode for analysis Cerium(IV)ions by using Carbon Paste Electrode (CPE)_{cerium} Modified

M.S. Ali Kamel Hasan¹

Dr. Hajar Nasr Nasser*, ²



1- Introduction:



Construction of the proposed modified electrode

A: Ionophore

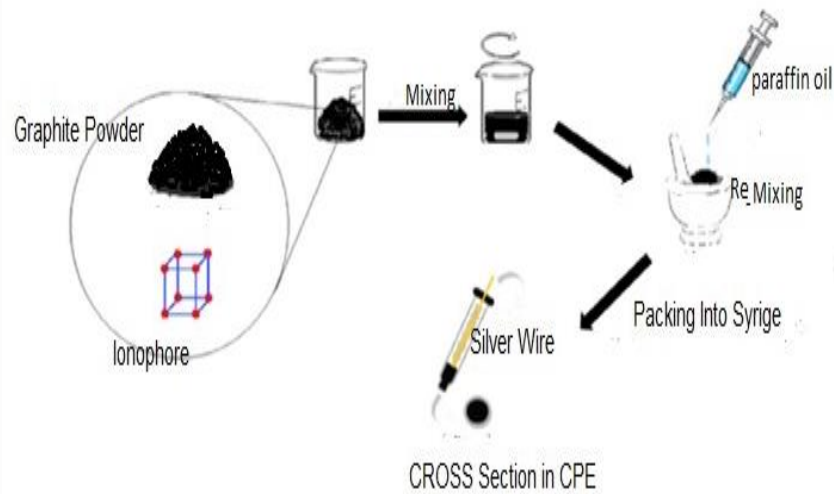
B: Graphite powder

C: Plasticizer(Paraffin oil)

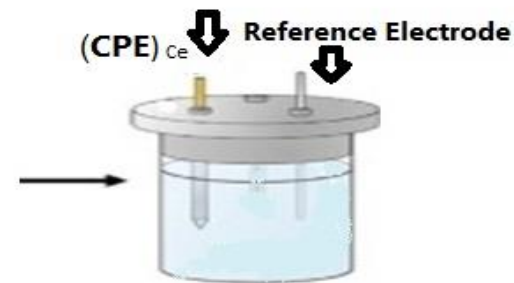
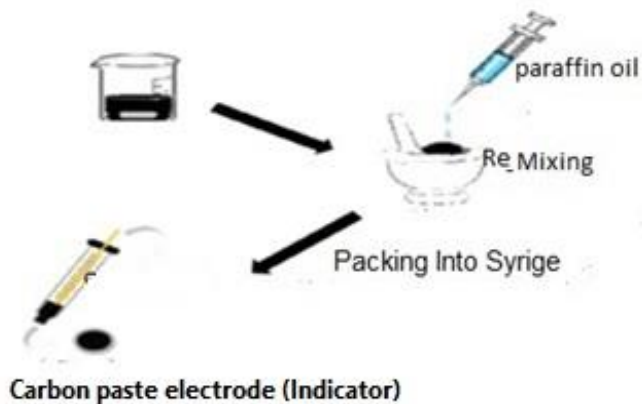
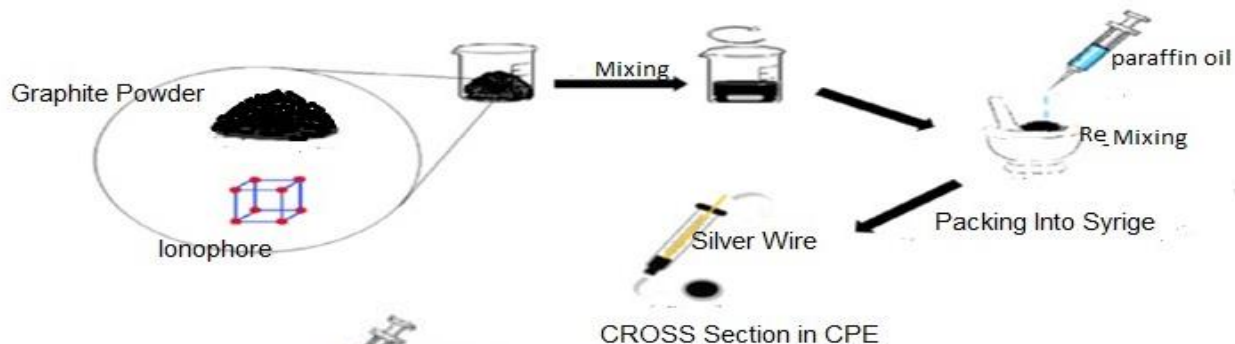
D: NaTBPH

Construction of the proposed modified electrode

- Prepare CPE-Ce(IV)



syn - electrochemical Cell system



**electrochemical Cell system by using (CPE- Ce) proposed
as an indicator electrode and Ag-Agcl as a reference
electrode.**

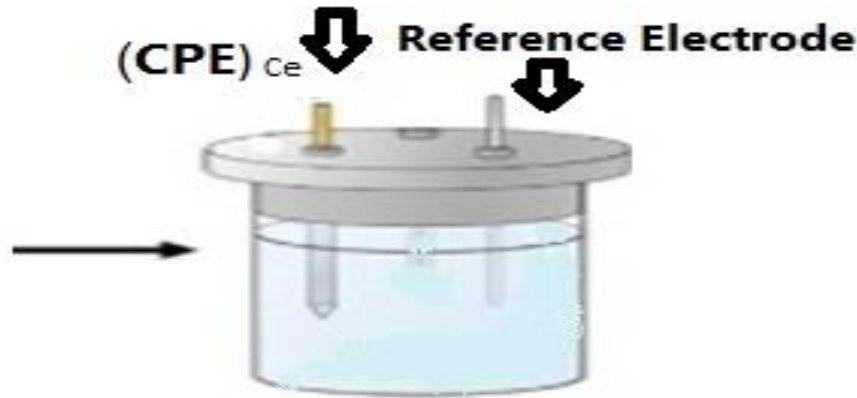


Table (1) : The best component for Carbon paste electrode –Ce (IV) ion

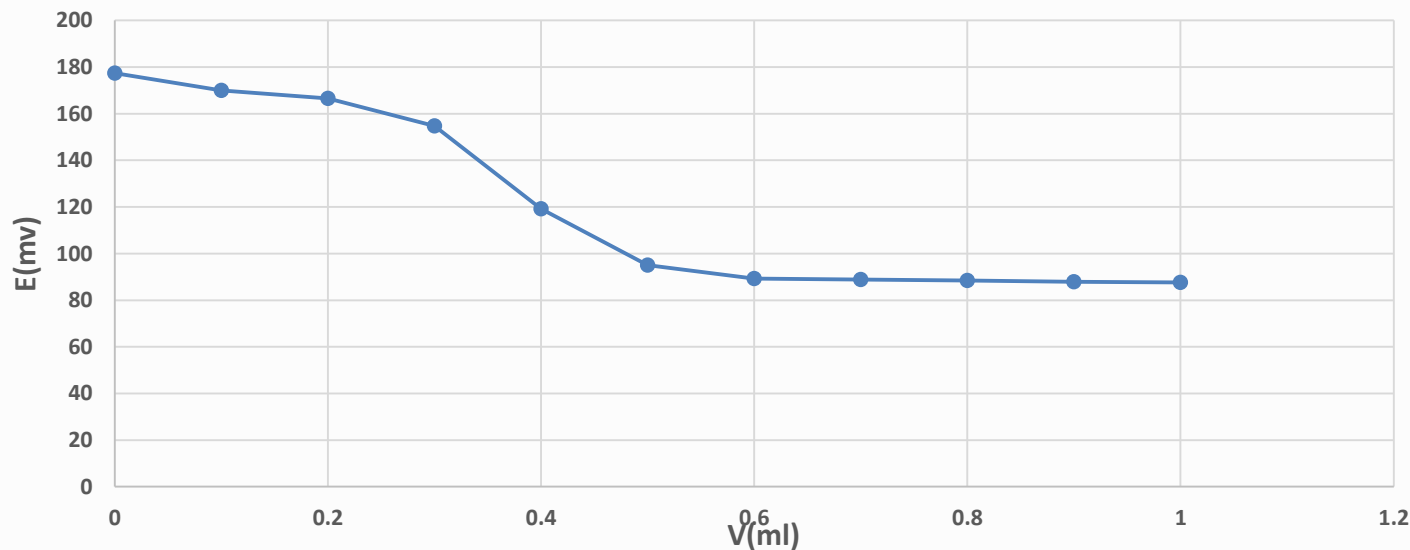
NaTPHB %	Paraffin oil %	Graphite Powder %	Ionophore %
0.2 %	46 %	49.8%	4 %

Result and Discussion

Analytical conditions			
pH range	Detection limit	Slope (mv/decade)	Linear range
3-6.8	(7×10^{-7}) M	(15 ± 1) mv per decade	$(1.0 \times 10^{-7} - 1.0 \times 10^{-1})$ M

Technical conditions			
stability	Lifetime	Temperature	Response time
12 Week	3 months	20-60	20 S

Potentiometric titration curve of 25 ml of Ce^{4+} ions (2.0×10^{-4} M) with standard solution of EDTA (1.0×10^{-2} M), using the proposed CPE, CPE ingredients, (4% Ionophore, 49.8% Graphite powder, 46 % Plasticizers, and 0.2% NATBPH).



Conclusion and recommendations

Use the proposed
electrodes in
detection trace
metals

Continuing and
work for transfer
this technology

Application of this
research
(medical- industry
– technical and
pharmacy)

Thank you