evropský sociální fond v ČR
EVROPSKÁ UNIE
MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY
OP Vzdělávání pro konkurenceschopnost
INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Název: Comparison of Brdicka reaction of PNA measured by differential pulse voltammetry and differential pulse voltammetry coupled with adsorptive transfer stripping technique

Školitel: Prof. Ing.Rene Kizek PhD

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Název projektu: Partnerská síť centra excelentního bionanotechnologického výzkumu

NanoBioMetalNet

Presenter: Nguyen Viet Hoai

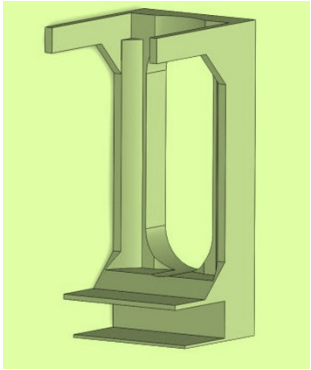
# Contents

# Why is PNA?

# Why is Brdicka reaction?

# MATERIALS AND METHODS

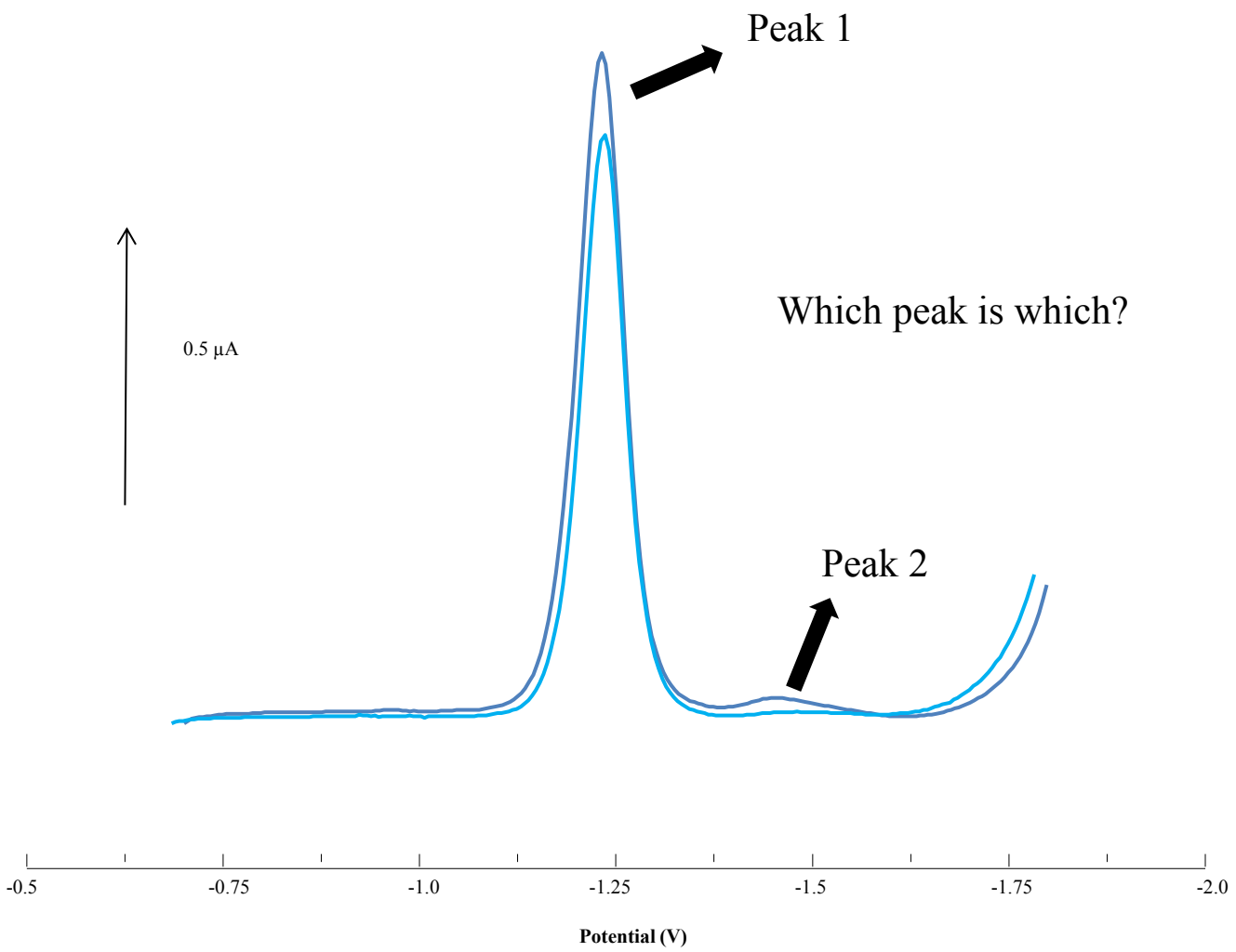
- PNA influenza A virus H5N1, cyteine-CTT CAA GGA G was used in this study

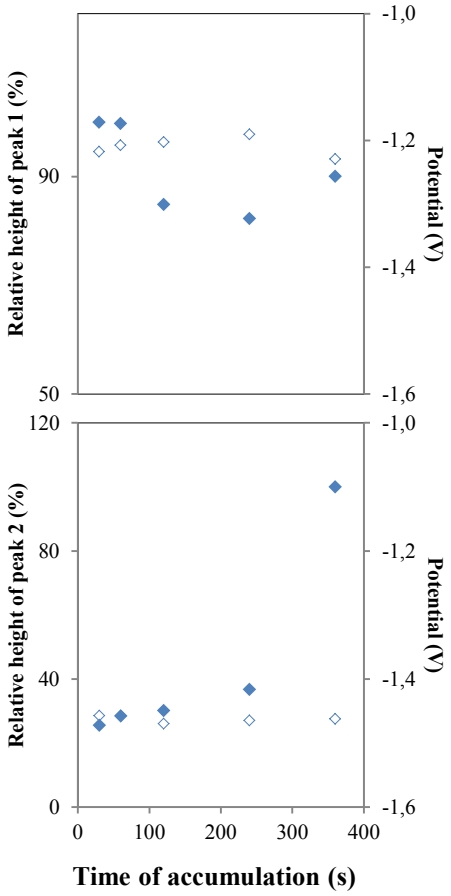


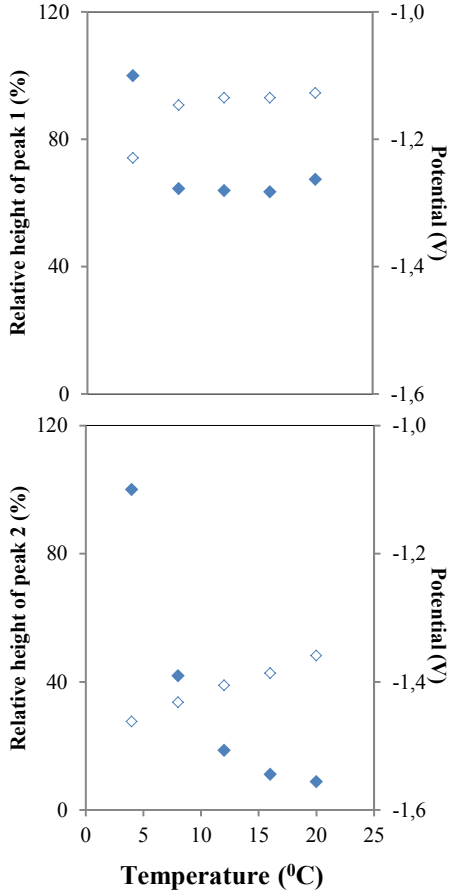
- Measurements were performed with AUTOLAB Analyzer (EcoChemie, Netherlands) connected to VA-Stand 663 (Metrohm, Switzerland), using a standard cell with three electrodes and cool holder sample by Julabo F25 (JULABO, Germany).

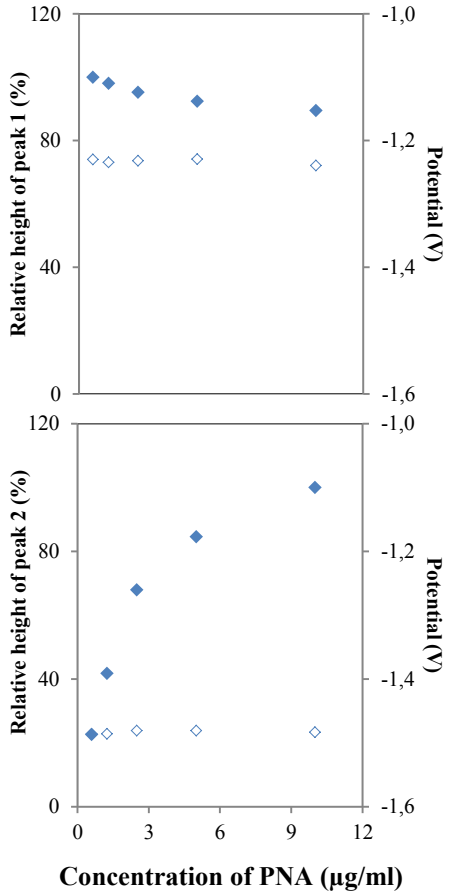

- DPV Brdicka reaction and an adsorptive transfer stripping technique (AdTS) coupled with DPV Brdicka reaction were employed for characterization of PNA influenza virus.

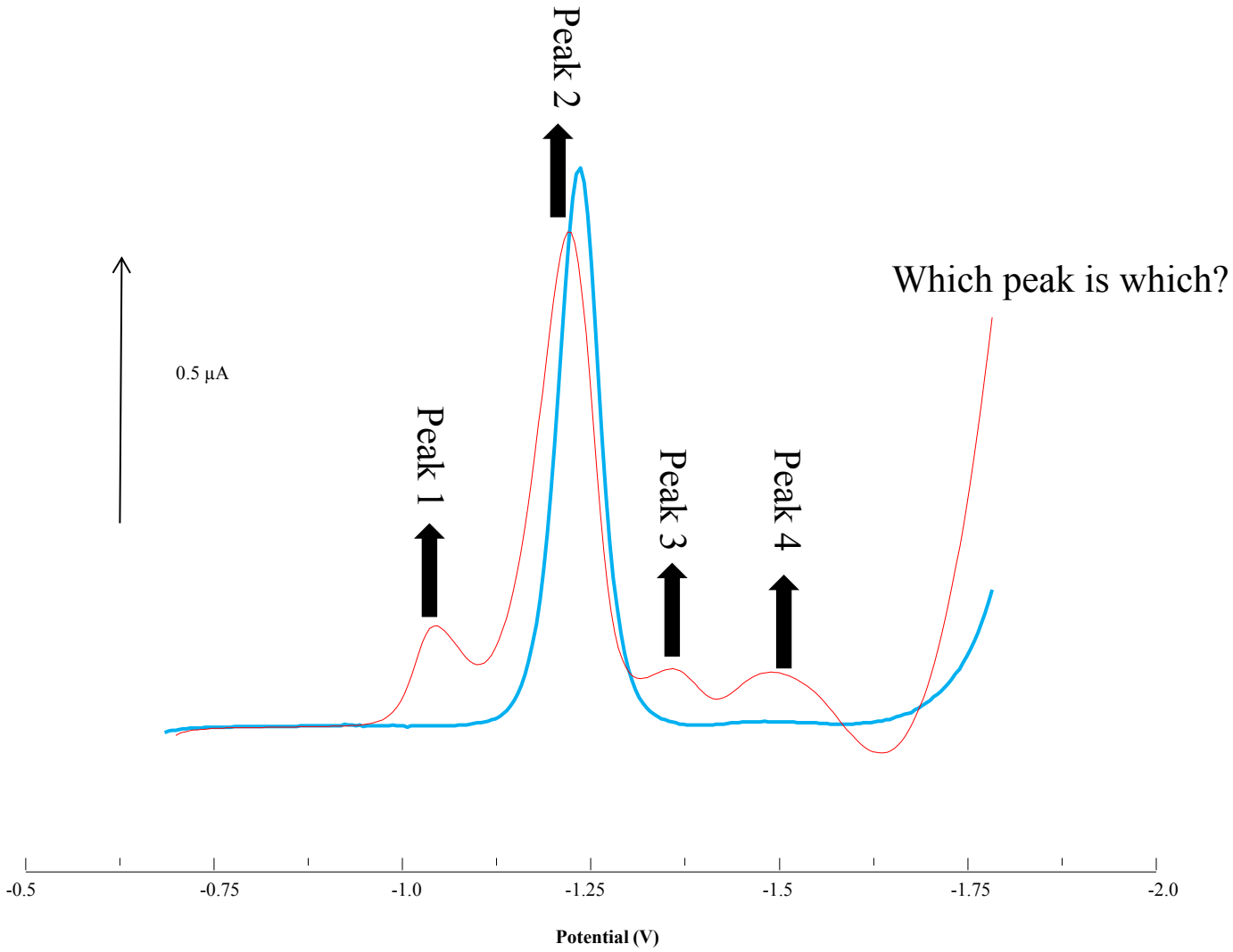
# RESULT AND DISCUSSION


Peak 1
Which peak is which?
0.5 µA
Peak 2
-0.5
-0.75
-1.0
-1.25
-1.5
-1.75
-2.0
Potential (V)


Relative height of peak 1 (%)
Potential (V)
-1,0
-1,2
-1,4
-1,6
90
50
Relative height of peak 2 (%)
120
80
40
0
100
200
300
400
Time of accumulation (s)


Relative height of peak 1 (%)
Potential (V)
-1,0
-1,2
-1,4
-1,6
120
80
40
0
Relative height of peak 2 (%)
5
10
15
20
25
Temperature (⁰C)


Relative height of peak 1 (%)
Potential (V)
-1,0
-1,2
-1,4
-1,6
120
80
40
0
Relative height of peak 2 (%)
3
6
9
12
Concentration of PNA (µg/ml)


Peak 2
Which peak is which?
0.5 µA
Peak 1
Peak 3
Peak 4
-0.5
-0.75
-1.0
-1.25
-1.5
-1.75
-2.0
Potential (V)

Relative height of peak 1 (%)
Relative height of peak 2 (%)
Relative height of peak 3 (%)
Relative height of peak 4 (%)
Potential (V)
0
40
80
120
-0,8
-1,2
-1,6
0
100
200
300
400
Time of accumulation (s)


Relative height of peak 1 (%)
Relative height of peak 2 (%)
Relative height of peak 3 (%)
Relative height of peak 4 (%)
Potential (V)
0
40
80
120
-0,8
-1,2
-1,6
0
10
20
30
Temperature (⁰C)


Relative height of peak 1 (%)
Relative height of peak 2 (%)
Relative height of peak 3 (%)
Relative height of peak 4 (%)
Potential (V)
0
40
80
120
-0,8
-1,2
-1,6
0
0,3
0,6
0,9
1,2
Concentration of PNA…

# Conclusion

- PNA produced signals in DPV Brdicka reaction and AdTS coupled with DPV Brdicka reaction.

- AdTS coupled with DPV is more sensitive than DPV

- Second holder will be designed.

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# Děkuji Vám za pozornost

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