



License ID 459712  
Client ID MET0558  
User Metrohm

Program version viva 2.0 - 54  
2016-03-10 15:02:09 UTC+1

## Method parameters

Method . . . . . AB 416 Activation of scTRACE Gold  
Method saving date . . . . . 2016-03-10 14:41:16 UTC+1  
Method version . . . . . 1  
Method group . . . . . Main group  
Method status . . . . . original  
Method saved by (full name) . . . . . Metrohm International Headquarters  
Method saved by (short name) . . . . . Metrohm

## START

### Main track

#### General

Workplace view

Current view . . . . . on

Track view for live window

Live display 1 . . . . . Main track

Live display 2 . . . . . Main track

Electrode test . . . . . on

#### Application note

Measuring solution: 10 mL cleaning solution ( $c(\text{H}_2\text{SO}_4) = 0.5 \text{ mol/L}$ ,  $c(\text{KCl}) = 0.05 \text{ mol/L}$ )

#### Sample data variables

Name	Type	Assignment	Fixed value	Comment	Monitoring
ID1	Text	ID1		Sample identification 1	off
ID2	Text	ID2		Sample identification 2	off
ID3	Text	ID3		Sample identification 3	off
Sample type	Text	Sample type			off
Sample amount	Number	Sample amount			off
Sample amount unit	Text	Sample amount unit			off

Name . . . . . **ID1**  
Type . . . . . Text  
Assignment . . . . . on. . . . . ID1  
Fixed value . . . . . off. . . . .  
Check at start . . . . . on  
Comment . . . . . Sample identification 1

Name . . . . . **ID2**  
Type . . . . . Text  
Assignment . . . . . on. . . . . ID2  
Fixed value . . . . . off. . . . .  
Check at start . . . . . on



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Comment . . . . . Sample identification 2

Name . . . . . **ID3**

Type . . . . . Text

Assignment . . . . . on. . . . . ID3

Fixed value . . . . . off. . . . .

Check at start . . . . . on

Comment . . . . . Sample identification 3

Name . . . . . **Sample type**

Type . . . . . Text

Assignment . . . . . on. . . . . Sample type

Fixed value . . . . . off. . . . .

Check at start . . . . . on

Comment . . . . .

Name . . . . . **Sample amount unit**

Type . . . . . Text

Assignment . . . . . on. . . . . Sample amount unit

Fixed value . . . . . off. . . . .

Check at start . . . . . on

Comment . . . . .

Name . . . . . **Sample amount**

Type . . . . . Number

Assignment . . . . . on. . . . . Sample amount

Fixed value . . . . . off. . . . .

Check at start . . . . . on

Comment . . . . .

Variable monitoring . . . . . off

Lower limit . . . . .

Upper limit . . . . .

Message . . . . .

Display message . . . . . on

Record message . . . . . on

Message by e-mail . . . . . off

E-mail template . . . . .

Subject . . . . . Message from viva - method 'scTRACE Gold  
Activation\_autoRinse' - command 'Main track'

Acoustic signal . . . . . off

Action . . . . . off

Cancel determination . . . . . on

Cancel determination and series . . . . . off

#### Command comment

AB 416/2: Activation of scTRACE Gold

#### Add cleaning solution



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## ADD SAMPLE

### Addition

Add manually . . . . . on  
Display standard message . . . . . on  
Display message defined by the user . . . . . off  
Already added . . . . . off  
Add with dosing device . . . . . off

## CALL VA

### Call activation

Call text . . . . . Call activation  
Track name . . . . . VA track  
Condition . . . . . off

## VA TRACK

### VA track

Return immediately . . . . . off

## LOOP

### Replications

#### Stop criteria

Max. run number . . . . . on  
Max. run number . . . . . 4  
Maximum run time . . . . . off  
Signal assessment for DT . . . . . off  
Condition . . . . . off

## CVS

### Activation

#### General/Hardware

##### Device

Device name . . . . . 884\_1  
Device type . . . . . 884 Professional VA

##### Sensors/Electrodes

Working electrode . . . . . RDE  
Sensor type . . . . . RDE/SSE  
Reference electrode . . . . . Reference electrode  
Auxiliary electrode . . . . . Auxiliary electrode  
Electrode test . . . . . on

##### Stirrer

Stirring rate . . . . . 2000 min<sup>-1</sup>  
Hydrodynamic measurement . . . . . off

#### Pretreatment

Stirring time . . . . . 10 s

##### Cyclovoltammetric pretreatment

Start potential . . . . . -1.5 V  
Vertex potential . . . . . 1.0 V  
Sweep rate . . . . . 1 V/s  
Cycles . . . . . 10  
Duration . . . . . 50.00 s

##### Potentiostatic pretreatment



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Potential 1 . . . . . -1.0 V  
Waiting time 1 . . . . . 10 s  
Potential 2 . . . . . -0.3 V  
Waiting time 2 . . . . . 10 s  
Potential 3 . . . . . off V  
Waiting time 3 . . . . . 0.0 s  
Potential 4 . . . . . off V  
Waiting time 4 . . . . . 0.0 s  
Potential 5 . . . . . off V  
Waiting time 5 . . . . . 0.0 s  
Equilibration time . . . . . 5.0 s

#### Sweep

Start potential . . . . . -0.3 V  
1st vertex potential . . . . . 0.2 V  
2nd vertex potential . . . . . -0.3 V  
Potential step . . . . . 0.01 V  
Potential step time . . . . . 0.025 s  
Sweep rate . . . . . 0.4 V/s  
Preparation cycles . . . . . 0  
Measuring cycles . . . . . 1  
Sweep duration . . . . . 2.55 s

#### Post-treatment

##### Cleaning

Cleaning potential . . . . . off V  
Cleaning time . . . . . 0.0 s

##### Standby potential

Standby potential . . . . . off V

#### Potentiostat

##### Current measuring range

Highest range . . . . . 224 mA  
Lowest range . . . . . 20  $\mu$ A

#### TRACK

##### Shut off

Return immediately . . . . . off  
Delete old data . . . . . off

#### STIR & PURGE

##### STIR & PURGE OFF

##### Device

Device name . . . . . 884\_1  
Device type . . . . . 884 Professional VA

##### Stir

Stirring rate . . . . . 2000 min<sup>-1</sup>  
Switch on . . . . . off  
Switch off . . . . . on  
Duration . . . . . off

##### Purge



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Switch on . . . . . off  
Switch off . . . . . on  
Duration . . . . . off

**MAIN  
VALVE**

**N2 OFF**

**Device**

Device name . . . . . 884\_1

Device type . . . . . 884 Professional VA

**Action**

Open . . . . . off

Close . . . . . on

**EXIT**

**Exit track**

**CALL**

**Exit shut off**

Call text	Track name	Sample type	Condition
Exit shut off	Shut off	off Sample	off

**ERROR**

**Error track**

**CALL**

**Error shut off**

Call text	Track name	Sample type	Condition
Error shut off	Shut off	off Sample	off

**Evaluation parameters**

**General**

**Activation**

**Data processing**

Smoothing . . . . . 1

Reversed peaks . . . . . off

**Curve evaluation**

Fixed point evaluation . . . . . on

**Fixed points**

Fixed point	Measured quantity	Fixed value	Sweep direction
1	Potential	0.075 V	anodic
2	Potential	0.075 V	cathodic

**Substances**

**Activation**

**Substances - Recognition**



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**Activation**  
**Substances - Baseline**

**Activation**  
**Calibration curves**

**Results**  
**Substance concentration in the sample**  
**Activation**

**Results**  
**Additional results**

Result	Places	Prefix	Unit
Peak potential	3		V
Height	2	#	A
RSD of the heights of all replications	1		%
Area	2	#	C
RSD of the areas of all replications	1		%
Start base point	3		
End base point	3		
Standardized area	3		
Standardized height	3		
Total volume	3	#	L
Zero-order coefficient	3		
First-order coefficient	3		
Second-order coefficient	3		
Fourth-order coefficient	3		
Coefficient of determination	5		
Substance concentration in measuring vessel	2	#	
RSD of the substance concentration in measuring vessel	1		%
Amount of substance	2	#	
RSD of the substance concentration in the sample	1		%
Effective addition volume of the standard solution for the evaluation ratio	2	#	L
RSD of the effective addition volume of the standard solution for the evaluation ratio	1		%
Calibration factor DT	2	#	
RSD of the calibration factor DT	1		%
Effective addition volume of the sample solution for the evaluation ratio	2	#	L
RSD of the effective addition volume of the sample solution for the evaluation ratio	1		%

**User-defined results**



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Result type	Result name	Formula	Unit	Decimal places	Assignment	Description
Single result	Delta I (75 mV) - 1-1	= ( 'RS.Activation. VAR{1}.REP{1}.FP {1}.CUR' - 'RS. Activation.VAR{1}. REP{1}.FP{2}.CUR' ) * 1000000000	nA	1	RS01	
Single result	Delta I (75 mV) - 1-2	= ( 'RS.Activation. VAR{1}.REP{2}.FP {1}.CUR' - 'RS. Activation.VAR{1}. REP{2}.FP{2}.CUR' ) * 1000000000	nA	1	RS02	
Single result	Delta I (75 mV) - 1-3	= ( 'RS.Activation. VAR{1}.REP{3}.FP {1}.CUR' - 'RS. Activation.VAR{1}. REP{3}.FP{2}.CUR' ) * 1000000000	nA	1	RS03	
Single result	Delta I (75 mV) - 1-4	= ( 'RS.Activation. VAR{1}.REP{4}.FP {1}.CUR' - 'RS. Activation.VAR{1}. REP{4}.FP{2}.CUR' ) * 1000000000	nA	1	RS04	

#### Database

Name database . . . . . viva