

## Personal and Professional Resume

### *Personal Information:*

---

**Hamid Abdollahi**



**Professor of Analytical Chemistry**

**Institute for Advanced Studies in Basic Sciences**

**Zanjan, 45195-159, Iran**

**Fax:** (int. +98) 241 1453232

**E-mail:** abd@iasbs.ac.ir

**Birth date and Place of the birth:** August 19, 1965, Abadan, Iran

Married, no children

---

### *Educations:*

---

High School: Khayam high school, Shiraz, Iran

B.Sc in Chemistry, Shiraz University **1988-1993**.

M.Sc in Analytical Chemistry, Shiraz University **1993-1995**.

Ph.D. in Analytical Chemistry, Shiraz University **1995-1999**.

---

### *Research Areas of Interest*

---

**Basic Chemometrical Study of soft- and hard modeling methods**

We are developing **some-new** methods for calculating and visualizing the ambiguities in self-modeling curve resolution (SMCR) methods and also systematic study of uncertainty in model fitting methods.

### Basic studies in Chemometrics methods:

In this ~~phase-thread~~ of our research program, we are developing a number of new chemometric methods for analyzing ~~the~~-measured chemical data matrices. We investigate the ~~conditions~~conditions for obtaining the unique solutions in application of self-modeling curve resolution methods.

### Chemometrics study of chemical equilibria and kinetics

In this ~~phase-thread~~ of our research program, we are developing a number of new soft and hard modeling techniques for accurate studies of complex chemical equilibria and kinetics.

---

### *Scientometric Indices: (updated 14 Sept. 2020)*

---

|  |                     |
|--|---------------------|
| Number of ISI publications:                | 135                 |
| Sum of the Times Cited :                   | 2704                |
| Sum of Times Cited without self-citations: | 2347                |
| Citing Articles:                           | 1861                |
| Citing Articles without self-citations:    | 1766                |
| Average Citations per Item:                | 20.03               |
|  | <b>h-index : 29</b> |

### *Activities;*

---

- 1) Organizer of first Iranian workshop of Chemometrics (September 2001, IASBS).
- 2) Organizer of second Iranian workshop of Chemometrics (September 2002, IASBS)
- 3) Organizer of third Iranian workshop of Chemometrics (September 2003, IASBS)
- 4) Organizer of fourth Iranian workshop of Chemometrics (September 2004, IASBS)
- 5) Organizer of fifth Iranian workshop of Chemometrics (March 2006, IASBS)
- 5) Organizer of sixth Iranian workshop of Chemometrics (February 2007, IASBS)
- 6) Organizer of Seventh Iranian workshop of Chemometrics (February 2008, IASBS)
- 7) Leader of *Chemometrics Committee* of **Iranian Chemical society** from 2009-2011
- 8) Organizer of Tenth Iranian workshop of Chemometrics (**October 2011, IASBS**) ←

[Check these dates](#)

9) Organizer of 12<sup>th</sup> Iranian workshop of Chemometrics (October 2011, IASBS)

---

### Teaching Experience

---

Postgraduate lectures on chemometrics to PhD students:

Invited course on chemometrics to PhD students in Tehran University of Medical Science, 2003

Invited course on chemometrics to PhD students in Bu-li Sina University of Hamedan, 2005, 2006, 2007 and 2008.

Invited course on chemometrics to PhD students in International University of Ghazvin, 2006 and 2010.

Invited course on chemometrics to PhD students in Sharif University of Technology, Tehran, 2011.

---

### Activity as Referee/Reviewer

---

1. ~~Referee of~~Reviewer for *Chemometrics and Intelligent Laboratory Systems*
2. ~~Referee of~~Reviewer for *Analytica Chimica Acta*
3. ~~Referee of~~Reviewer for *Journal of Solution Chemistry*
4. ~~Referee of~~Reviewer for *Journal of Chromatography A*
5. ~~Referee of~~Reviewer for *Journal of AOAC International*
6. ~~Referee of~~Reviewer for *Talanta*
7. ~~Referee of~~Reviewer for *Langmuir*
8. ~~Referee of~~Reviewer for *Journal of Iranian Chemical Society*
9. ~~Referee of~~Reviewer for *Analyst*
10. ~~Referee of~~Reviewer for *Spectrochimica acta*
11. ~~Referee of~~Reviewer for *Drug Testing and analysis*

### Visiting periods

---

Three months visiting ~~from the department~~ Department of ~~chemistry~~ Chemistry of at Newcastle University in Newcastle-Australia under a joint project with **Professor Marcel Maeder**, summer 2007.

Three months visiting ~~from the~~ Department of Environmental Chemistry, Institute of Chemical and Environmental Research (CSIC) in Barcelona-Spain under a joint project with **Professor Roma Tauler**, summer 2010.

Two months visiting ~~from the~~ University of Szeged in Hungary under a joint project with **Professor Robert Rajko**, summer 2012.

Visiting ~~from~~ East Carolina University and ~~defining~~ ~~defining~~ two different joint ~~research~~ ~~research~~ projects with **Professor Paul Gemperline**, Spring 2018.

Two months visiting ~~from~~ ~~Ohio~~ University ~~of~~ ~~Ohio~~ in under a joint project with **Professor Peter Harrington**, summer 2019.

Two months visiting ~~from~~ ~~the~~ State University of New York at Albany ~~under~~ ~~in~~ a joint project with **Professor Rabi Musah**, summer 2020.

---

### *PHD Thesis Supervision*

---

**1) Simultaneous Determination of Food Colorants by Using Chemometric Methods.**

Manan Hajimahmoodi.  
September 2002.  
(Co-supervisor).

**2) Differentiation of bovine and porcine gelatins using principal component analysis**

Mahboob Nemati  
September 2003.  
(Co-supervisor).

**3) Simultaneous Spectrophotometric Kinetic Analysis of Trace heavy metals in water by Chemometric Methods.**

Mohamad Reza Khoshayand.  
November 2003.  
(Co-supervisor).

**4) Application of Chemometric Methods in Chemical Kinetic and Equilibrium Systems**

A. H. Naseri  
Feb. 2007  
(Co-supervisor).

**5) Quantitative determination of some organic compounds in complex samples in the presence of unknown componets using chemometric methods**

Tahereh Heidari  
Feb. 2011

**6) Spectroscopic studies of the effects of ionic liquids in chemical equilibria, biomolecule interactions and nanosynthesis using chemometric methods.**

Sedighe Zeinali

May 2009  
(Co-supervisor).

- 7) **Evaluation of Three-way Data Having Degenerate Factors by Parallel Factor Analysis Modeling**  
Maryam Sajjadi  
Feb. 2010
- 8) **Basic Chemometrical Study on Rotational Ambiguity for Three and Four-Component Systems in Multivariate Data**  
Azadeh Golshan,  
June 2011
- 9) **Multivariate Analysis of Bilinear and Non-Bilinear Electrochemical Second Order Data**  
Mojtaba Kooshki  
December 2011
- 10) **A systematic approach toward error structure effects on calculated feasible solutions in soft modeling methods**  
Mahsa Dadashi  
December 2013
- 11) **Calculation and Meaning of Feasible Band Boundaries in Multivariate Curve Resolution of a Three-Component System**  
Samira Beyramisoltan  
January 2014
- 12) **New Achievements for Improving the Results of Self-Modeling Curve Resolution Methods Using Efficient Constraints**  
Golnar Ahmadi  
January 2014
- 13) **Multivariate Study of Aggregation Kinetics of Gold Nanoparticles for Size Determination and Enantiomeric Recognition**  
Farideh Rabbani  
December 2014
- 14) **Basic Chemometrics Investigation on Microscopic Structure of Bilinear Chemical Data**  
Akram Rostami  
November 2015
- 15) **Investigation the effects of soft-constraints and constraint based optimization on self- modeling curve resolution methods**  
Nahal Rahimdust Mozhdehi  
January 2016
- 16) **Data Microstructure Investigation on Local Rank Information and Deficiencies**  
Mahsa Akabari Lakeh  
Jun 2018

**17) Relationship between Duality Concept and Complementarity-Coupling Theorems in Case of Reducing the Rotational Ambiguity**

Elnaz Tavakkoli  
June 2018

**18) A Basic Investigation on Uniqueness in Two-Way Second-Order Calibration Methods**

Mahdieh Ghaffari  
September 2018

**19) Effects of incorporating the physico-chemical information on model-based data analysis**

Somaye Khodadadi Karimvand  
October 2018

**20) Different chemometrics approaches for Multivariate Curve Resolution analysis of chemical and omics data**

Jamile Mohammadjafari  
February 2020

**21) On Constraint-Based Strategies to Reduce the Rotational Ambiguity Underlying MCR Modeling**

Somaye Valizade  
July 2020

---

***MS Thesis Supervision***

**1) Simultaneous Spectrophotometric Determination of some Quinones by Chemometric Methods after Cloud Point Extraction or Microcrystalline Naphthalene Extraction**

Leila Bagheri  
Aprill 2003.

**2) Application of Chemometric Methods in Simultaneous Determination of Metal Ions and Study of some Chemical Equilibria**

Sedigheh Zeinali  
October 2002.

**3) Spectrophotometric Study of Acid-Base Dissociation Equilibria and Kinetics of Chemical Reactions by H-Point Curve Isolation and H-Point Standard Addition Methods**

Maryam Abbasi Tarighat  
October 2003.

**4) A Systematic Study on some Reaction between Phosphines Compounds and Electron Acceptor**

Mahdi Davari  
September 2001

**5) Application of Soft-modeling Chemometric Methods for Spectrophotometric Studies of Microscopic Dissociation of Acids and Tautomeric Equilibria.**

Vahideh Mahdavi  
October 2003.

**6) The Spectrophotometric Analysis of Ternary Mixtures of Ascorbic Acid, Acetyl Salicylic Acid and Paracetamol by H-Point Standard Addition Method**

Akram Moghadam Fard  
June 2004.

**7) Combination of MCR-ALS and RAFA methods for Spectrofluorimetric study of Acid Dissociation Equilibria in Binary Mixtures.**

Maryam Sajady  
December 2004.

**8) Spectrophotometric and Potentiometric Analysis of mixture of Acids by Using Chemometric Methods.**

Mehdi Vasighi  
December 2004

**9) Spectrophotometric Study of Chemical Kinetics using Hard-Soft Modeling.**

Azadeh Golshan  
Sept. 2006

**10) Spectrophotometric Study of Tautomerization Kinetics in Micellar Media with Chemometric Methods.**

Golnar Ahmadi  
Sept 2006

**11) Kinetic spectrophotometric mixture analysis by rank annihilation factor analysis**

Sadegh Karimi  
Dec. 2006

**12) Multivariate spectrofluorometric study of interaction between Methylene blue, Sodium dodecyl sulfate and  $\beta$ -cyclodextrin**

Maryam Khorami  
June 2008  
(Co-supervisor)

**13) Thermodynamic characterization of Methylene blue dimerization and complexation with some Cyclodextrins**

Faride Rabbani  
Feb. 2008

**14) Uncertainties and error propagation in kinetic and equilibrium hard-modelling of spectroscopic and pH-metric data**

Parvin Darabi  
August 2009

**15) Resolving Factor Analysis using Cheatic Particle Swarm Optimization**

Samira Beyramy Soltan  
September 2009

**16) Application of multivariate curve resolution-alternating least squares (MCR-ALS) method for quantitative analysis of some drugs**

Fariba Norouz Yeganeh  
Octobr 2009

**17) Multivariate mixture analysis in non-selective spectral chemical systems based on indicator displacement assays (IDAs)**

Akram Rostami  
December 2009

**18) Investigation of Correlation between Chemical Model Parameters on their Calculated Uncertainty in Multivariate Fitting**

Ali Barati  
September 2011

**19) Multivariate Spectrophotometric Study of Micro Chemical Processes by Using Hard-Soft Modeling in Water-Methanol Mixtures**

Sedighe Kargar Shouroki  
September 2012

**20) Multivariate Mixture Analysis in Spectrally nonselective Chemical Systems Based on Indicator Displacement Assays (IDAs): Simultaneous determination of Histidine and Cysteine**

Somayeh Khodadadi Karimvand  
September 2013

**21) Approach to determine accurate Model Parameters of buffered chemical Processes**

Mohammad Javad Masroor  
October 2015

**22) Approach to Accurate Models for Investigating the Chemical Processes in Non- Constant Ionic Strength**

Javad Ghorbani  
September 2017

**23) Model based design of experimental procedures for efficient investigation of some chemical equilibria**

Reza Lotfi Khatonabadi  
December 2017



## *List of Publications*

---

**1) Spectrophotometric study on micelle-mediated shift in kinetic and equilibrium of complex formation between Ni<sup>2+</sup> and 2-amino-cyclopentene-1-dithiocarboxylic acid**

A. Safavi & H. Abdollahi

*Microchemical Journal* 2001, 69:2:69-77

**2) Application of the H-point standard addition method to the speciation of Fe(II) and Fe(III) with chromogenic mixed reagents,**

A. Safavi, H. Abdollahi,

*Talanta* 54 (4) (2001) pp. 727 - 734.

**3) Thermodynamic characterization of weak association equilibria accompanied with spectral overlapping by a SVD-based chemometric method,**

Afsaneh Safavi, Hamid Abdollahi,

*Talanta* 53 (5) (2001) pp. 1001 – 1007

**4) Kinetic spectrophotometric determination of V(IV) in the presence of V(V) by the H-point standard addition method,**

A Safavi, H. Abdollahi, F. Sedaghatpour, S. Zeinali,

*Analytica Chimica Acta* 409 (1-2) (2000) pp. 275-282.

**5) Optical sensor for high pH values,**

A Safavi, H. Abdollahi,

*Analytica Chimica Acta* 367 (1-3) (1998) pp. 167-173.

**6) Speciation of Fe(II) and Fe(III) with Chromogenic Mixed Reagents by Principal-Component Regression**

A. Safavi, H. Abdollahi

*Microchemical Journal*, Vol. 63, No. 2, Oct 1999, pp. 211-217

**7) Simultaneous Spectrophotometric Determination of Chromium(VI) and Iron(III) with chromogenic mixed reagents by H-point standard addition method and partial least square regression.**

H. Abdollahi

*Analytica Chimica Acta* 442 (2001) pp. 327-336.

**8) Simultaneous Kinetic Determination of Fe(III) and Fe(II) by H-Point Standard Addition Method.**

A. Safavi, H. Abdollahi and M.R. Hormozi nezhad

*Talanta*, 56, 699-704, 2002.

**9) SIMULTANEOUS SPECTROPHOTOMETRIC DETERMINATION OF IRON, COBALT, AND NICKEL BY PARTIAL LEAST SQUARES CALIBRATION METHOD IN MICELLAR MEDIUM**

A. Safavi ; H. Abdollahi

*Analytical Letters*

31(12), 2817 - 2827 2001

**10) Spectrophotometric Study of the Stoichiometry and Conditional Stability Constants of Some Trivalent Metal Ion Complexes of Methyl Thymol Blue**

H. Abdollahi and M. Shamsipur

*J. Sci. I. R. Iran*

9(1) 28-33, 1997

**11) Spectrophotometric Study of Cobalt, Nickel, Copper, Zinc and Lead Complexes with Methyl Thymol Blue in Binary Water Methanol Mixtures**

R. Ghavami, H. Abdollahi and M. Shamsipur

*Iran J. Chem. & Chem. Eng.*

16(1) 22-28, 1997

**12) Spectral curve deconvolution in micellar system by H-point curve isolation and H-point standard addition methods**

A. Safavi, H. Abdollahi and M. Bagheri

*Anal. Chim. Acta*, 459, 119-131, 2002.

**13) Simultaneous determination of Fe(II) and Fe(III) by kinetic spectrophotometric H-point standard addition method**

J. Zolgharnein, H. Abdollahi, D. Jaefarifar and G.H. Azimi

*Talanta*, 57(6), 1067-1073, 2002.

**14) INDIRECT KINETIC SPECTROPHOTOMETRIC DETERMINATION OF COBALT BASED ON THE REDOX REACTION WITH IRON(III) IN THE PRESENCE OF 1,10-PHENANTHROLINE**

A. Safavi ; H. Abdollahi ; M. R. Hormozi Nezhad

*Spectroscopy Letters*, 35(5) 681-688, 2002.

**15) Indirect simultaneous kinetic determination of semicarbazide and hydrazine in micellar media by H-point standard addition method**

A. Safavi ; H. Abdollahi ; F. Sedaghatpour; M. R. Hormozi Nezhad

*Talanta*, 59(1), 147-153, 2003.

**16) Artificial neural networks for simultaneous spectrophotometric differential kinetic determination of Co(II) and V(IV)**

A. Safavi ; H. Abdollahi ; M. R. Hormozi Nezhad

*Talanta*, 59(3), 515-523, 2003.

**17) Simultaneous spectrophotometric determination of iron and vanadium by H-point standard addition method and partial least squares regression in micellar medium**

H. Abdollahi, J. Zolgharnein, G. H. Azim and D. Jafarifar

*Talanta*, 59 (6) 1141-1151, 2003

**18) Simultaneous Spectrophotometric Determination of Iron, Titanium, and Aluminum by Partial Least-Squares Calibration Method in Micellar Medium**

A. Safavi, M. Mirzaee and H. Abdollahi

*Anal. Lett.* 36 (3) 699-712, 2003.

**19) Rank annihilation factor analysis for spectrophotometric study of complex formation equilibria**

Hamid Abdollahi and Fariba Nazari

*Anal. Chim. Acta*, 486 (1) 109-123, 2003.

**20) Alkali Metal Complexation. Binding Properties of cone and partial-cone Calix[4]arenes Bearing a Mixed ( $O_2$ ,  $O_2'$ ) Donor Set ( $O$  = Phosphine Oxide;  $O'$  = Amide or Ester)**

M.R. Yaftian, M. Vahedpour, H. Abdollahi, C. Jeunesse, D. Matt.

*Journal of Inclusion Phenomena and Macrocyclic Chemistry*

47 (3-4): 129-132, December 2003

**21) Spectrophotometric study of complexation equilibria with H-point standard addition and H-point curve isolation methods**

H. Abdollahi and S. Zeinali

*Talanta* 62 (2004) 151–163.

**22. Differentiation of bovine and porcine gelatins using principal component analysis**

M. Nemati, M. R. Oveisi, H. Abdollahi and O. Sabzevari

*Journal of Pharmaceutical and Biomedical Analysis*

Volume 34, Issue 3 , 18 February 2004, Pages 485-492

**23. H-point standard addition method in the analysis by differential pulse anodic stripping voltammetry. Simultaneous determination of lead and tin**

E. Shams., H. Abdollahi, M. Yekehtaz, R. Hajian

*Talanta* 63 (2004) 359–364

**24) Simultaneous Spectrophotometric Determination of Iron, Cobalt and Copper by Partial Least-Squares Calibration Method in Micellar Medium**

H. Abdollahi\*, M. Shariat Panahi, Mohammad Reza Khoshayand

*Iranian Journal of Pharmaceutical Research* (2003) 207-212

**25) Cloud point extraction, preconcentration and simultaneous spectrophotometric determination of nickel and cobalt in water samples**

A. Safavi, H. Abdollahi, M.R. Hormozi Nezhad, R. Kamali

*Spectrochimica Acta Part A* 60 (2004) 2897–2901

**26) Simultaneous spectrophotometric determination of Vitamin K<sub>3</sub> and 1,4-naphthoquinone after cloud point extraction by using genetic algorithm based wavelength selection-partial least squares regression,**

Hamid Abdollahi and Leila Bagheri

Anal. Chim. Acta 514 (2): 211-218, 2004

**27) Simultaneous Spectrophotometric Determination of Benzoquinone and Chloranil After Microcrystalline Extraction by Using Genetic Algorithm-Based Selection-Partial Least Squares Regression**

Hamid ABDOLLAHI and Leila BAGHERI

ANALYTICAL SCIENCES DECEMBER 2004, VOL. 20, 1701-1706.

**28) Simultaneous kinetic determination of V(IV) and Fe(II) by H-point standard addition method**

Safavi A, Towhidi F, Abdollahi H

CANADIAN JOURNAL OF ANALYTICAL SCIENCES AND SPECTROSCOPY 49 (5): 309-313 2004

**29) Simultaneous mixture analysis by using non-linear spectrophotometric data and linear iterative target transformation factor analysis.**

H. Abdollahi, M.R. Yaftian and S. Zeinali

Analytica Chimica Acta, **531(1)**, 153-160, 2005

**30) Simultaneous Determination of Copper and Bismuth by Anodic Stripping Voltammetry Using H-Point Standard Addition Method with Simultaneous Addition of Analytes**

Esmail Shams, Hamid Abdollahi, Reza Hajian

*Electroanalysis*, **17**, 1589-1594, 2005.

**31) H-Point standard addition method for simultaneous determination of Fe (II), Co (II) and Cu (II) in micellar media with simultaneous addition of three analytes**

M. Hasani, H. Abdollahi, L. Yaghoobi

Talanta, 68(5) 1528-1532, 2006.

**32) Simultaneous Spectrofluorimetric Determination of Piroxicam and Pyridoxine Using Generalized Rank Annihilation Method**

Hamid Abdollahi, Mohammad Hossein Sorouraddin, Abdolhossein Naseri

Analytical Science, 22 (2) 263-267, 2006.

**33) Simultaneous spectrophotometric determination of Fe(III), Al(III) and Cu(II) by partial least-squares calibration method**

A. Safavi, H. Abdollahi and R. Mirzajani

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy  
63, 1, 196-199, 2006.

**34) Local resolution of two-way data from multicomponent equilibria**

H. Abdollahi, M.H.Sorouraddin, A. H. Naseri  
Analytica Chimica Acta, 562 (1) 94-102, 2006.

**35) Performance comparison of neural network training algorithms in modeling of bimodal drug delivery**

A. Ghaffari, H. Abdollahi, M.R. Khoshayand, I. Soltani Bozchalooi, A. Dadgar and M. Rafiee-Tehrani  
International Journal of Pharmaceutics, 327, 1-2, 126-138, (2006).

**36) Simultaneous voltammetric determination of cysteine, tyrosine and tryptophan by using principal component artificial neural networks**

Majidi MR, Jouyban A, Abdollahi H, Asadpour-Zeynali, K.  
ASIAN JOURNAL OF CHEMISTRY 18 (4): 2445-2457, 2006

**37) Net analyte signal-based simultaneous determination of ethanol and water by quartz crystal nanobalance sensor**

A. Mirmohseni, H. Abdollahi and K. Rostamizadeh  
Analytica Chimica Acta, 585, 1, 2007, 179-184

**38) Analysis of transient response of single quartz crystal nanobalance determination of volatile organic compounds.**

A. Mirmohseni, H. Abdollahi, K. Rostamizadeh  
Sensors and Actuators B, 121, 365-371, 2007.

**39) Tautomerization Equilibria in Aqueous Micellar Solutions: A Spectrophotometric and Factor-Analytical Study**

Hamid Abdollahi and Vahideh Mahdavi  
Langmuir, 23, 2362-2368, 2007.

**40) Kinetic Study and UV-VIS Spectra of 1:2 Complexation of Free Base Para\_Substituated meso-Tetraphenylporphyrins with Triethyl Chloride**

Afsaneh Safavi, Zarangiz Movahedi, Daryoush Mohajer, Hamid Abdollahi  
International Journal of Chemical Kinetics, 39, 4, 2007, 231-235.

**41) Ion Binding Properties of 5,11,17,23-tetra-tert-Butyl-25,27-bis(diethylcarbamoylmethoxy)-26,28-bis(diphenylphosphinoylmethoxy) calix[4]arene Towards Alkaline-Earth Cations**

M.R. Yaftian<sup>1</sup>, H. Abdollahi<sup>2</sup>, R. Shokouhi<sup>1</sup>, M. Tavakoli<sup>1</sup> and D. Matt<sup>3</sup>  
*Chem. Anal. (Warsaw)*, 52, 103 (2007)

**42) A kinetic spectrophotometric method for simultaneous determination of glycine and lysine by artificial neural networks**

Masoumeh Hasani, Leila Yaghoubi, Hamid Abdollahi

Analytical Biochemistry 365 (2007) 74–81.

**43) Kinetic spectrophotometric determination of Fe(II) in the presence of Fe(III) by H-point standard addition method in mixed micellar medium**

Masoumeh Hasani, Alireza Rezaei and Hamid Abdollahi

Spectrochimica Acta Part A 68 (2007) 414–419.

**44) Simultaneous Kinetic-Potentiometric Determination of Hydrazine and Thiosemicarbazide by Partial Least Squares and Principle Component Regression Methods**

Mohammad Ali Karimi, Hamid Abdollahi, Hassan Karami and Fatemeh Banifateme

*Journal of the Chinese Chemical Society*, 2008, 55, 129-136

**45) Application of H-Point Standard Addition Method and Partial Least Squares to the Simultaneous Kinetic-Potentiometric Determination of Hydrazine and Phenylhydrazine**

Mohammad Ali KARIMI, Mohammad MAZLOUM ARDAKANI, Hamid ABDOLLAHI, and Fatemeh BANIFATEMEH

ANALYTICAL SCIENCES, 2008, 24, 261

**46) Simultaneous spectrophotometric determination of paracetamol, ibuprofen and caffeine in pharmaceuticals by chemometric methods**

M.R. Khoshayand, H. Abdollahi, M. Shariatpanahi, A. Saadatfard, A. Mohammadi

*Spectrochimica Acta Part A*, 70(2008) 491-499.

**47) Interaction of anionic dyes and cationic surfactants with ionic liquid character**

A. Safavi, H. Abdollahi, N. Maleki, S. Zeinali

*Journal of Colloid and Interface Science*, 2008, 322, 274-280.

**48) A new strategy for solving matrix effect in multivariate calibration standard addition data using combination of H-point curve isolation and H-point standard addition methods**

Abbas Afkhami, Maryam Abbasi-Tarighat, Morteza Bahram, Hamid Abdollahi

*Analytica Chimica Acta*, 613, 2008, 144-151

**49) Model-based rank annihilation factor analysis for quantitative analysis of mixtures of monoprotic acids using multivariate spectrophotometric acid-base titrations**

H. Abdollahi, A. Safavi, S. Zeinali

*Chemometrics and Intelligent Laboratory Systems* 94 (2008) 112–117

**50) The Investigation of Equilibria in Solution**

M. Maeder and H. Abdollahi

*J. Iran. Chem. Soc.*, Vol. 5, No. 4, December 2008, pp. 522-534.

**51) Evaluation of variation matrix arrays by parallel factor analysis**

Hamid Abdollahi and S. Maryam Sajjadi

*J. Chemometrics*, 2009, 23, 139-148.

**52) Calculation and Meaning of Feasible Band Boundaries in Multivariate Curve Resolution of a Two-Component System**

Hamid Abdollahi, Marcel Maeder, and Roma Tauler

*Anal. Chem.*, 2009, 81, 2115–2122

**53) Application of soft- and hard-modelling approaches to resolution of kinetics of electron donor–acceptor complex formation of 2,3-dichloro-5,6-dicyano-1,4-benzoquinone with imipramine in different solutions**

Masoumeh Hasani, Masoud Shariati-Rad, Hamid Abdollahi

*Analytica Chimica Acta* 636 (2009) 175–182.

**54) Investigation of the Role of Ionic Liquids in Tuning the pKa Values of Some Anionic Indicators**

A. Safavi · H. Abdollahi · N. Maleki · S. Zeinali

*J Solution Chem* (2009) 38: 753–761

**55) Soft-modeling based spectrofluorimetric study of simultaneous equilibria**

H. Abdollahi and S. M. Sajjadi

*Luminescence* 2009; 24: 332–339

**56) Rank deficiency in spectrophotometric study of acid dissociation equilibria in mixed solvent media**

Hamid Abdollahi , Hamid Babamoradi

*Chemometrics and Intelligent Laboratory Systems* 98 (2009) 58–64

**57) An exploratory analysis of the electron donor–acceptor complex formation between risperidone and iodine by principal component analysis, soft- and second-order hard-modelling approaches**

Masoumeh Hasani, Masoud Shariati-Rad, Hamid Abdollahi

*Chemometrics and Intelligent Laboratory Systems, Systems* 100 (2010) 83–90.

**58) Second-Order Data Obtained from Differential Pulse Voltammetry: Determination of Lead in River Water Using Multivariate Curve Resolution-Alternating Least-Squares (MCR-ALS)**

Hamid Abdollahi and Mojtaba Kooshki,

*Electroanalysis* 22 , 19, 2245-2253, 2010.

**59) On rotational ambiguity in parallel factor analysis**

H. Abdollahi and S.M. Sajjadi

Chemometrics and Intelligent Laboratory Systems 103 (2010) 144–151.

**60) Simultaneous spectrophotometric determination of chlordiazepoxide and clidinium using multivariate calibration techniques**

Mohammad Reza Khoshayand, Hamid Abdollahi, Ali Moeini, Ali Shamsaie, Alireza Ghaffarie and Sepideh Abbasian  
Drug Testing and Analysis, 2, 9-10, 430-435, 2010

**61) Resolution of Rotational Ambiguity for Three-Component Systems**

Azadeh Golshan, Hamid Abdollahi, and Marcel Maeder  
Anal. Chem. 2011, 83, 836–841

**62) Quantitative analysis by resolving variation matrices of pH–Spectrophotometric titration data using Self-Modeling Curve Resolution**

Abdolhossein Naseri and Hamid Abdollahi  
Anal. Methods, 2011, 3, 429

**63) Rank annihilation factor analysis method for spectrophotometric study of second-order reaction kinetics**

Hamid Abdollahi, Azadeh Golshan  
Anal. Chim. Acta, 2011, 693, 26-34

**64) Hard–soft modeling parallel factor analysis to solve equilibrium processes**

S. M. Sajjadi and H. Abdollahia  
J. Chemometrics, 2011, 25, 169-182.

**65) Uniqueness and rotation ambiguities in Multivariate Curve Resolution methods**

Hamid Abdollahi and Roma Tauler  
*Chemometrics and Intelligent Laboratory Systems* 108 (2011) 100–111

**66) Synthesis and Complexation Properties of N,N-Bis(phosphinomethyl)amine as a New Class of 1-Aminophosphinic Acids with Transition Metals and Lanthanide Ions in Aqueous Solution**

Babak Kaboudin, Fariba Saadati, Azadeh Golshan, Hamid Abdollahi, and Tsutomu Yokomatsu  
*J. Chem. Eng. Data* 2011, 56, 3651–3656

**67) Second-order data obtained from differential pulse voltammetry: Determination of tryptophan at a gold nanoparticles decorated multiwalled carbon nanotube modified glassy carbon electrode**

Mojtaba Kooshki, Hamid Abdollahi, Somayyeh Bozorgzadeh, Behzad Haghighi  
*Electrochimica Acta* 56 (2011) 8618– 8624



**68) Asymmetric logistic peak as a suitable function for the resolution of highly asymmetric voltammograms in non-bilinear systems**

Mojtaba Kooshki; Jose Manuel Diaz-Cruz; Hamid Abdollahi; Cristina Arino; Miquel Esteban

*Analyst*, 2011, **136**, 4696-4703

**69) The reduction of rotational ambiguity in soft-modeling by introducing hard models**

Azadeh Golshana, Hamid Abdollahia, Marcel Maederb

*Analytica Chimica Acta* **709** (2012) 32– 40

**70) Maximum Likelihood Principal Component Analysis as initial projection step in Multivariate Curve Resolution analysis of noisy data**

Mahsa Dadashi, Hamid Abdollahi, Romà Tauler

*Chemometrics and Intelligent Laboratory Systems*, **118**, 2012, Pages 33-40

**71) Spectrophotometric thermodynamic study of orientational isomers formed by inclusion of methyl orange into  $\beta$ -cyclodextrin nanocavity**

Mohsen Kompany-Zareh, Zeinab Mokhtari, Hamid Abdollahi

*Chemometrics and Intelligent Laboratory Systems*, **118**, 2012, 230-238

**72) Multivariate extension of classical equations for the study of electrochemically irreversible systems**

Mojtaba Kooshki, José Manuel Díaz-Cruz, Hamid Abdollahi, Cristina Ariño, Miquel Esteban

*Chemometrics and Intelligent Laboratory Systems*, **119**, 2012,44-51

**73) H-point curve isolation method for determination of catechol in complex unknown mixtures**

Hasani, Masoumeh; Mohammadi, Masoumeh; Shariati-Rad, Masoud; et al.

**SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY**, 96, 563-568, 2012.

**74) A systematic study on the accuracy of chemical quantitative analysis using soft modeling methods**

Golnar Ahmadi, Hamid Absollahi

*Chemometrics and Intelligent Laboratory Systems*, **120**, 59-70, 2013

**75) Report on a meeting on rotational ambiguity in soft-modelling analyses**

de Juan, Anna; Abdollahi, Hamid; Maeder, Marcel; Rajko Robert, Tauler Roma

**JOURNAL OF CHEMOMETRICS** 27, 1-2 ,2013

**76) Application of maximum likelihood multivariate curve resolution to noisy data sets**

Dadashi, Mahsa; Abdollahi, Hamid; Tauler, Roma

**JOURNAL OF CHEMOMETRICS** , 34-41 2013

**77) Synthesis and potentiometric studies of novel aminomethylphosphinic acids and their complexation properties with transition metals in aqueous solution**

Babak Kaboudin • Khavar Moradi , Ali Barati • Hamid Abdollahi

J IRAN CHEM SOC,

**78) On uniqueness and selectivity in three-component parallel factor analysis**

Nematollah Omidikia, Hamid Abdollahi\*, Mohsen Kompany-Zareh

*Analytica Chimica Acta* 782 (2013) 12– 20

**79) Useful multivariate kinetic analysis: Size determination based on cystein-induced aggregation of gold nanoparticles**

Faride Rabbani, Mohammad Reza Hormozi Nezhad , Hamid Abdollahi

*Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 115 (2013) 588–594

**80) Investigation of the equality constraint effect on the reduction of the rotational ambiguity in three-component system using a novel grid search method.**

Samira Beyramysoltan,; Robert Rajko; Hamid Abdollahi,

*Analytica chimica acta*, **791**, 2013, 25-35

**81) Determination and visualization of rotational ambiguity in four-component systems**

Azadeh Golshan, Marcel Maeder. Hamid Abdollahi

*Analytica Chimica Acta* 796 (2013) 20– 26

**82) Investigation and visualization of resolution theorems in self modeling curve resolution (SMCR) methods**

Akbari, Mahsa; Abdollahi, Hamid

*JOURNAL OF CHEMOMETRICS* , 27, 2013, 278-286

**83) Visualization and establishment of partial uniqueness and uniqueness rules in parallel factor analysis**

Omidikia, Nematollah; Abdollahi, Hamid; Kompany-Zareh, Mohsen

*JOURNAL OF CHEMOMETRICS* 27, 2013, 330-340.

**84) Determination and visualization of rotational ambiguity in four-component systems**

Golshan, Azadeh; Maeder, Marcel; Abdollahi, Hamid

*ANALYTICA CHIMICA ACTA*, 796, 2013, 20-26.

**85) Newer developments on self-modeling curve resolution implementing equality and unimodality constraints**

Samira Beyramysoltan, Hamid Abdollahi, Róbert Rajkó  
**Analytica Chimica Acta 827 (2014) 1–14**

**86) Kinetic fluorescence quenching of CdS quantum dots in the presence of Cu(II): Chemometrics-assisted resolving of the kinetic data and quantitative analysis of Cu(II)**

Abdollahi, Hamid; Shamsipur, Mojtaba; Barati, Ali  
SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, 127 (2014) 137-143.

**87) Hybrid of non-selective quantum dots for simultaneous determination of TNT and 4-nitrophenol using multivariate chemometrics methods**

Barati, Ali; Shamsipur, Mojtaba; Abdollahi, Hamid  
ANALYTICAL METHODS, 16 (2014) 6577-6584.

**88) Definition and detection of data-based uniqueness in evaluating bilinear (two-way) chemical measurements**

Robert Rajko; Hamid Abdollahi; Samira Beyramysoltan; Nematollah Omidikia  
ANALYTICA CHIMICA ACTA, 855 (2015) 21-33.

**89) Multivariate Calibration of First Order Data with the correlation constrained MCR-ALS method**

Ahmadi, Golnar; Tauler, Roma; Abdollahi, Hamid  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS, 142, 143-150, 2015.

**90) A misunderstanding about upconversion luminescence of carbon quantum dots**

Barati, Ali; Shamsipur, Mojtaba; Abdollahi, Hamid  
JOURNAL OF THE IRANIAN CHEMICAL SOCIETY, 12, 3, 441-446, 2015.

**91) Synthesis of biocompatible and highly photoluminescent nitrogen doped carbon dots from lime: Analytical applications and optimization using response surface methodology**

By: Barati, A; Shamsipur, M; Arkan, E; Hosseinzadeh,; Abdollahi, H  
MATERIALS SCIENCE & ENGINEERING C-MATERIALS FOR BIOLOGICAL APPLICATIONS  
47, 325-332, 2015

**92) Model-based analysis of coupled equilibrium kinetic processes: indirect kinetic studies of thermodynamic parameters using the dynamic data**

Fereshteh Emami, Marcel Maeder and Hamid Abdollahi  
*Analyst*, 2015, **140**, 3121–3135

**93) Fitting-free curve resolution of spectroscopic data: Chemometric and physical chemical viewpoints**

Rajko, Robert; Beyramysoltan, Samira; Abdollahi, Hamid;  
*ANALYTICA CHIMICA ACTA* , **888**, 19-26, 2015.

**94) Hemoglobin detection using carbon dots as a fluorescence probe**

Barati, Ali; Shamsipur, Mojtaba; Abdollahi, Hamid  
*BIOSENSORS & BIOELECTRONICS*, 71, 470-475, 2015.

**95) Study of monoprotic acid-base equilibria in aqueous micellar solutions of nonionic surfactants using spectrophotometry and chemometrics**

Babamoradi, Hamid; Abdollahi, Hamid  
*SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY*, 149, 851-859, 2015.

**96) Soft constraints for reducing the intrinsic rotational ambiguity of the area of feasible solutions**

Sawall, Mathias; Rahimdoust, Nahal; Kubis, Christoph;  
*CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS*, 149, 140-150, 2015.

**97) Quantifying aflatoxins in peanuts using fluorescence spectroscopy coupled with multi-way methods: Resurrecting second-order advantage in excitation-emission matrices with rank overlap problem.**

S. Maryam Sajjadi, Hamid Abdollahi, Reza Rahmanian, Leila Bagheri  
*Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 156 (2016) 63–69.

**98) A review of recent methods for the determination of ranges of feasible solutions resulting from soft modelling analyses of multivariate data**

Azadeh Golshan, Hamid Abdollahi, Samira Beyramysoltan, Marcel Maeder, Klaus Neymeyrd, Robert Rajko, Mathias Sawall, Roma Tauler  
**Analytica Chimica Acta**, 911 (2016) 1-13.

**98) Enhanced target factor analysis**

Akram Rostami , Hamid Abdollahi , Marcel Maeder  
**Analytica Chimica Acta** 911 (2016) 35-41

**99) Hydroxy-bisphosphinic acids: synthesis and complexation properties with transition metals and lanthanide ions in aqueous solution**

Babak Kaboudin, Ali Ezzati, Mohammad Reza Faghihi, Ali Barati, Foad Kazemi, Hamid Abdollahi, Tsutomu Yokomatsu  
**J IRAN CHEM SOC** (2016) 13:747–752

**100) A systematic study on the effects of multi-set data analysis on the range of feasible solutions**

Alinaghi, Masoumeh; Rajko, Robert; Abdollahi, Hamid  
**CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS**  
153 (2016) 22-32.

**101) Investigating the effect of flexible constraints on the accuracy of self-modeling curve resolution methods in the presence of perturbations**

Nahal Rahimdoust Mojdehi, Mathias Sawall, Klaus Neymeyr and Hamid Abdollahi  
**Chemometrics** 2016; 30: 252–267.

**102) Metal-ion-mediated fluorescent carbon dots for indirect detection of sulfide ions**

Ali Baratia, Mojtaba Shamsipur, Hamid Abdollahia  
**Sensors and Actuators B** 230 (2016) 289–297.

**103) Carbon dots with strong excitation-dependent fluorescence changes towards pH. Application as nanosensors for a broad range of pH**

Ali Barati, Mojtaba Shamsipur, Hamid Abdollahi  
Analytica Chimica Acta, 931 (2016) 25-33.

**104) Analytical solution and meaning of feasible regions in two-component three-way arrays**

Nematollah Omidikia , Hamid Abdollahi, Mohsen Kompany-Zareh, Robert Rajko  
Analytica Chimica Acta 939 (2016) 42-53.

**105) Error propagation along the different regions of multivariate curve resolution feasible solutions**

Mahsa Dadashia, Hamid Abdollahi, Romà Tauler  
Chemometrics and Intelligent Laboratory Systems, 2017, 162, 203-213

**106) Local Rank Deficiency Caused Problems in Analyzing Chemical Data**

Mahsa Akbari Lakeh, Robert Rajko´ and Hamid Abdollahi  
Analytical Chemistry, 2017, 89, 2259–2266.

**107) On rotational ambiguity in parallel profiles with linear dependencies**

Omidikia N., Kompany-Zareh M., Rajko R., Abdollahi H.  
J. Chemom., doi.org/10.1002/cem.2891, 2017

**108) On uniqueness of the non-negative decomposition of two- and three-component three-way data arrays**

Rajko R., Omidikia N., Abdollahi H., Kompany-Zareh M.,  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS,  
160, 91-98, 2017

**109) Duality based interpretation of uniqueness in the trilinear decompositions**

Ghaffari, Mandiyeh; Abdollahi, Hamid  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS  
177, 117-25, 2018.

**110) Duality based direct resolution of unique profiles using zero concentration region information**

Tavakkoli, Elnaz; Rajko, Robert; Abdollahi, Hamid  
TALANTA, 184, 557-564, 2018.

**111) Strategy To Obtain Accurate Analytical Solutions in Second-Order Multivariate Calibration with Curve Resolution Methods**

Ghaffari, Mandiyeh; Oliyieri, Alejandro C.; Abdollahi, Hamid  
ANALYTICAL CHEMISTRY, 90 , 9725-9733, 2018.

**112) Known-value constraint in multivariate curve resolution**

Mahsa Akbari Lakeh; Abdollahi, Hamid  
ANALYTICA CHIMICA ACTA , 1030, 42-51, 2018.

**113) Closure constraint in multivariate curve resolution**

Omidikia, Nematollah; Beyramysoltan, Samira; Jafari, Jamile  
Mohammad; et al.  
JOURNAL OF CHEMOMETRICS, Article Number: e2975, 2018

**114) Chemometrical study of spectral curve fitting constraint on self-modelling curve resolution methods**

Karimvand, Somaiyeh Khodadadi; Abdollahi, Hamid  
JOURNAL OF CHEMOMETRICS, 32, Article Number: e3074, 2018.

**115) Hard modeling study of chemical equilibria in mixed solvents**

Sheykhizadeh, Saheleh; Naseri, Abdolhossein; Abdollahi, Hamid  
JOURNAL OF CHEMOMETRICS, 33, Article Number: e3098, 2019.

**116) A chemical equilibrium modelling strategy for tuning the apparent equilibrium constants of the chemical systems**

Karimvand, Somaiyeh Khodadadi; Maeder, Marcel; Abdollahi, Hamid  
ANALYTICA CHIMICA ACTA, 1049, 29-37, 2019.

**117) Discriminating normal regions within cancerous hen ovarian tissue using multivariate hyperspectral image analysis**

Mahsa Akbari Lakeh,; Tu, Anqi; Muddiman, David C.; Abdollahi Hamid,  
RAPID COMMUNICATIONS IN MASS SPECTROMETRY, 33, 381-391, 2019

**118) Effect of image processing constraints on the extent of rotational ambiguity in MCR-ALS of hyperspectral images**

Ghaffari, Mandiyeh; Hugelier, Siewert; Duponchel, Ludovic; Abdollahi Hamid, Ruckebusch Cyril  
ANALYTICA CHIMICA ACTA , 1052, 27-36, 2019.

**119) Multi-excitation hyperspectral autofluorescence imaging for the exploration of biological samples**

Mahdiyeh Ghaffari, Anne-Laure Chateigner-Boutin, Fabienne Guillon, Marie-Françoise Devaux, Hamid Abdollahi, Ludovic Duponchel  
Analytica Chimica Acta 1062 (2019) 47-59.

**120) A conceptual view to the area correlation constraint in multivariate curve resolution**

Ghaffari, Mahdiyeh; Abdollahi, Hamid  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS  
189, 2019, 121-129.

**121) Introducing the monotonicity constraint as an effective chemistry-based condition in self-modeling curve resolution**

Zade, Somaye Vali; Sawall, Mathias; Neymeyr, Klaus; Abdollahi ~~HA~~midHamid.  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS  
190, 2019, 22-32.

**122) Trilinear self-modeling curve resolution using Borgen-Rajko plot**

Omidikia, Nematollah; Abdollahi, Hamid; Kompany-Zareh, Mohsen; Rajko, Robert.  
JOURNAL OF CHEMOMETRICS, Article Number: e3161.

**123) Model-based description of indicator displacement assay sensor arrays for quantitation of mixtures**

Rostami, Akram; Karimvand, Somaiyeh Khodadadi; Abdollahi, Hamid  
JOURNAL OF CHEMOMETRICS, 11, Article Number: e3186, 2019.

**124) Activity-based analysis of potentiometric pH titrations**



Karimvand, Somaiyeh Khodadadi; Xuan Anh Nguyen; Abdollahi, Hamid;  
ANALYTICA CHIMICA ACTA , 2019, 49.

**125) Soft-trilinear constraints for improved quantitation in multivariate curve resolution**

Tavakkoli, Elnaz; Abdollahi, Hamid; Gemperline, Paul J.  
ANALYST 145, 223-232, 2020.

**126) Bilinear and trilinear modelling of three-way data obtained in two factor designed metabolomics studies**

Jafari, Jamile Mohammad; Abdollahi, Hamid; Tauler, Roma  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS  
197, Article Number: 103917 , 2020.

**127) Soft known-value constraints for improved quantitation in multivariate curve resolution**

Lakeh, Mahsa Akbari; Abdollahi, Hamid; Gemperline, Paul J.  
ANALYTICA CHIMICA ACTA, 1105, 64-73, 2020.

**128) On the restrictiveness of equality constraints in multivariate curve resolution**

Sawall, Mathias; Zade, Somaye Vali; Kubis, Christoph; Schroeder, Henning; Meinhardt, Denise; Braecher, Alexander; Franke, Robert; Boerner, Armin; Abdollahi, Hamid; Neymeyr, Klaus.  
CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS  
199, Article Number: 103942, 2020.

**129) Generalized indicator-based determination of solution pH**

Rasouli, Zahra; Abdollahi, Hamid; Maeder, Marcel  
ANALYTICA CHIMICA ACTA, 1109, 90-97, 2020.

**130) Analysis of residual moisture in a freeze-dried sample drug using a multivariate fitting regression model**

Lakeh, Mahsa Akbari; Karimvand, Somaiyeh Khodadadi; Khoshayand, Mohammad Reza; Abdollahi Hamid.

MICROCHEMICAL JOURNAL, 154, Article Number: 104516, 2020.

**131) Second-order universal calibration**

Ghaffari, Mandiyeh; Khoshayand, Mohammad Reza; Duponchel, Ludovic; Abdollahi Hamid.

TALANTA, 2121, Article Number: 120787, 2020.

**132) Investigation of the unique solutions in bilinear decomposition of multiset chemical data**

Alinaghi, Masoumeh; Abdollahi, Hamid

MICROCHEMICAL JOURNAL, 155, Article Number: 104740, 2020.

**133) A general rule for uniqueness in self-modeling curve resolution methods**

Karimvand, Somaiyeh Khodadadi; Lakeh, Mahsa Akbari); Tavakkoli, Elnaz; Ghaffari, Mahdiyeh; Omidikia, Nematollah; Abad, Saeed Khalili Ali; Rajko, Robert ; Abdollahi, Hamid.

JOURNAL OF CHEMOMETRICS, 34, Article Number: e3268, 2020.

**134) New duality based generalized rank annihilation algorithm for determining analyte concentration with realistically estimated error level for practical data sets**

Tavakkoli, Elnaz; Abdollahi, Hamid; Rajko, Robert

CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS 203, Article Number: 104058, 2020.

**135) A new strategy for calibrating indicator displacement assay (IDA)-based sensor systems**

Karimvand, Somaiyeh Khodadadi; Abdollahi, Hamid

ANALYTICA CHIMICA ACTA, 1127, 174-181, 2020.