# CURRICULUM VITAE
# AND
# ANALYTICAL MEMORANDUM OF SCIENTIFIC PUBLICATIONS

**of THEODOROS SIDERIS**

**DR. CHEMIST**

# CONTENTS

# PART 1: CURRICULUM VITAE

# 1 GENERAL

## 1.1 Personal information


| | |
|---|---|
| Name | Theodoros |
| Surname | Sideris |
| Father's name | Dimitrios |
| Address | 11, Anaximandrou Str, Patras, 26335, Greece |
| Telephones | (+30) 2610 643902, (+30) 6972124899 (mobile) |
| E-mails | sidtheod@gmail.com, special.translation.services@gmail.com |
| LinkedIn | https://gr.linkedin.com/in/theodoros-sideris-4bbab440 |
| Facebook | https://www.facebook.com/SpecialTS |
| Date of birth | 09/08/1976 |
| Place of birth | Patras, Greece |
| Nationality | Hellenic |
| Marital status | Single |


## 1.2 Areas of specialization

- Inorganic Chemistry. Synthesis of Inorganic and Organometallic compounds.
- Biology. Creation and study of solid and liquid fungi cultures.
- Testing of OPS language codes.
- Teaching Chemistry and Physics.
- Teaching foreign languages (English and Italian).

## 1.3 Brief description of studies and professional career

| | | |
|---|---|---|
| 1.3.1 | 2019-today<br>Patras, Greece | Freelance Translator/Proofreader/Subtitler. |
| 1.3.2 | 2008-today<br>Patras, Greece | Private lessons (individuals or small groups of persons) in Organic and Inorganic Chemistry to high school and University students. |
| 1.3.3 | 2016-2022<br>Patras, Greece | Postgraduate Studies Program in Pharmaceutical Sciences and Technology with specialisation in "Industrial Pharmaceutics - Cosmetics", Department of Pharmacy, School of Health Sciences, University of Patras, Greece |
| 1.3.4 | 2018-2019<br>Patras, Greece | Computer analyst, Support of various groups in documentation and code testing, INTRACOM S.A., Department of Patras. |
| 1.3.5 | 2018<br>Patras, Greece | Seminar: "Good Manufacturing Practice on Cosmetics, Standard ISO 22716: 2007", 2018. The seminar took place at the Department of Chemistry of the School of Sciences of the University of Patras. |
| 1.3.6 | 2011-2018<br>Patras, Greece | Third Line Support Design Maintenance for Ericsson GmbH: MSC (Mobile Switching Centre) PLM (Product Line Maintenance) and GASUP (Global Application Systems Upgrade Path), INTRACOM S.A., Department of Patras. |
| 1.3.7 | 2017<br>Patras, Greece | Seminar: "Lyophilisation of Pharmaceutical Products". The seminar took place at the Department of Pharmacy of the School of Health Sciences of the University of Patras. |
| 1.3.8 | 2017<br>Patras, Greece | Seminar: "Seminar on Occupational Health and Safety". The seminar took place at the Conference and Cultural Center of the University of Patras. |
| 1.3.9 | 2017<br>Patras, Greece | Workshop: «Traditional Herbal Medicinal Products: a rough HOW TO guide. / The European Regulation of Cosmetic Products: what can I claim? / Do you want to cure or beautify? Interactive session and Q/A / Art and science of Micropropagation». The Workshop took place at the Department of Pharmacy of the School of Health Sciences of the University of Patras. |

| | | |
|---|---|---|
| 1.3.10 | 2016<br>Patras, Greece | Diploma KeyCert IT Basic. Knowledge of computer manipulation in objects: (a) word processing, (b) spreadsheets and (c) internet services. |
| 1.3.11 | 2015<br>Patras, Greece | Registered Professional Chemist in Greece. License to Exercise Chemistry Teaching in Tutorial and Homework. EOPPEP (National Organisation for the Certification of Qualifications and Vocational Guidance) Protocol No. 64175. |
| 1.3.12 | 2012<br>Patras, Greece | Doctoral degree (PhD), University of Patras, School of Natural Sciences, Department of Chemistry, Division B: Physical Chemistry, Inorganic and Nuclear Chemistry. |
| 1.3.13 | 2004-2012<br>Patras, Greece | PhD Candidate, University of Patras, School of Natural Sciences, Department of Chemistry, Division B: Physical Chemistry, Inorganic and Nuclear Chemistry. |
| 1.3.14 | 2007-2011<br>Patras, Greece | Computer analyst – Upgrade impacts Responsible, Third Line Support Design Maintenance for Ericsson GmbH: MSC PLM SEPAG (Solution Entry Packaging) and GASUP, INTRACOM S.A., Department of Patras. |
| 1.3.15 | 2010<br>Patras, Greece | Course on "Security Sally-Awareness Training", INTRACOM S.A., Department of Patras. |
| 1.3.16 | 2008<br>Athens, Greeece | Diploma in Italian "CERTIFICATO DI CONOSCENZA DELLA LINGUA ITALIANA, LIVELLO 5 (CELI 5)", Università per Stranieri di Perugia. |
| 1.3.17 | 2006-2007<br>Patras, Greece | Computer analyst, Third Line Support Design Maintenance for Ericsson GmbH: MSC PLM AC (Application Correction) Testing Team, INTRACOM S.A., Department of Patras. |
| 1.3.18 | 2005-2006<br>Patras, Greece | Teaching and Laboratory assistant for the course Inorganic Chemistry II, (2nd semester), Department of Chemistry, School of Natural Sciences, University of Patras. |
| 1.3.19 | 2005-2006<br>Patras, Greece | Computer analyst – Design and Maintenance of subroutines, Third Line Support Design Maintenance for Ericsson GmbH: MSC PLM SEPAG (Solution Entry Packaging) and GASUP, INTRACOM S.A., Department of Patras. |
| 1.3.20 | 2006<br>Athens, Greece | Diploma in Italian "CERTIFICATO DI CONOSCENZA DELLA LINGUA ITALIANA, LIVELLO 3 (CELI 3)", Università per Stranieri di Perugia. |
| 1.3.21 | 2005<br>Aachen, Germany | Training on APG40, Operation and Maintenance at the premises of Ericsson GmbH in Herzogenrath, Aachen, Germany. |
| 1.3.22 | 2005<br>Aachen, Germany | Training on Global Application Systems Upgrade Path (GASUP) Rules, Methods and Tools at the premises of Ericsson GmbH in Herzogenrath, Aachen, Germany. |
| 1.3.23 | 2000-2005<br>Patras, Greece | Computer analyst, Member of DE (Signalling) Team and DG (Mobile) Team of Ericsson GmbH and Third Line Support Design Maintenance for Ericsson GmbH: MSC PLM, INTRACOM S.A., Department of Patras. |
| 1.3.24 | 2002<br>Patras, Greece | Diploma in Italian PALSO "Certificato Superiore". |
| 1.3.25 | 2002<br>Patras, Greece | Member of Assosiation of Greek Chemists. |
| 1.3.26 | 2002<br>Patras, Greece | Diploma in Chemistry (Specialisation in Food Chemistry), University of Patras, School of Natural Sciences, Department of Chemistry. Certification of Oenology. |
| 1.3.27 | 2001<br>Patras, Greece | Diploma in Italian PALSO "Certificato Intermedio". |
| 1.3.28 | 2001<br>Greece | License to teach English (Protocol No.: Φ.Φρ./4572 (26/09/2001), based on Δ5/12087/218/4-12-2000), granted by the Hellenic Ministry of Education and Religious Affairs, Culture and Sports, Greece. |
| 1.3.29 | 2000<br>Patras, Greece | Seminar: "SOFTWARE ENGINEERING COURSE E4.01", at the premises of INTRACOM S.A. in Patras, Greece. |

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|---|---|---|
| 1.3.30 | 2000 Greece | Adequacy in teaching English (Δ5/12087/218/4-12-2000), granted by the Hellenic Ministry of Education and Religious Affairs, Culture and Sports, Greece. |
| 1.3.31 | 1995-2002<br>Patras, Greece | Studies in Chemistry, University of Patras, School of Natural Sciences, Department of Chemistry. |
| 1.3.32 | 1999<br>Patras, Greece | Diploma in English "Certificate of Proficiency in English", University of Cambridge". |
| 1.3.33 | 1995<br>Patras, Greece | Diploma in English "Cambridge University First Certificate in English". |
| 1.3.34 | 1995<br>Patras, Greece | National admission exams, University of Patras, School of Natural Sciences, Department of Chemistry. |
| 1.3.35 | 1994<br>Patras, Greece | National admission exams, Technical University of Heraklion, Department of Electrology, Spring Semester. |
| 1.3.36 | 1994<br>Patras, Greece | 4th General Lyceum of Patras, Patras, Greece. |

## 1.4 Languages

1.4.1 Proficiency

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---|---|---|---|---|---|
| | Verbal | Written | Spoken interaction | Spoken production | |
| Greek | Proficient User | Proficient User | Proficient User | Proficient User | Proficient User |
| English | Proficient User | Proficient User | Proficient User | Proficient User | Proficient User |
| Italian | Proficient User | Proficient User | Proficient User | Proficient User | Proficient User |
| French | Basic User | Basic User | Basic User | Basic User | Basic User |

1.4.2 Certificates

Greek native

English "Certificate of Proficiency in English, University of Cambridge" (1999)

"Cambridge University First Certificate in English" (12/1995)

- Adequacy in teaching English (Δ5/12087/218/4-12-2000), granted by the Hellenic Ministry of Education and Religious Affairs, Culture and Sports, Greece;
- License to teach English (Protocol No.: Φ.Φρ./4572 (26/09/2001), based on Δ5/12087/218/4-12-2000), granted by the Hellenic Ministry of Education and Religious Affairs, Culture and Sports, Greece.

Italian
- CERTIFICATO DI CONOSCENZA DELLA LINGUA ITALIANA: CELI5 (10/11/2008), CELI3 (12/06/2006), Università per Stranieri di Perugia
- PALSO: Certificato Superiore (05/2002), Certificato Intermedio (05/2001)

French -

## 1.5 Computer skills

- KeyCert IT Basic (12/2016)
- Excellent knowledge of Microsoft Office™ tools (97, 2003, 2007, 2010)
- Excellent knowledge of Edml, Sgml.
- Excellent knowledge of Microcal Origin 4.0.
- Good knowledge of the following operational systems:
  - Windows (95, 98, XP, 7, 10)
  - Linux
  - Unix
- Professional knowledge of the following programming languages:
  - QBasic
  - PLEX
  - SDL
  - OPS

# 2 STUDIES

## 2.1 Brief presentation

2.1.1 Postgraduate Studies Program

2016-2022 Postgraduate Studies Program in Pharmaceutical Sciences and Technology with specialisation in "Industrial Pharmaceutics - Cosmetics", Department of Pharmacy, School of Health Sciences, University of Patras, Greece.

2.1.2 Doctoral degree (PhD)

2004-2012 PhD Candidate, Department of Chemistry, School of Natural Sciences, University of Patras, Division B: Physical Chemistry, Inorganic and Nuclear Chemistry, Greece.

2.1.3 Diploma in Chemistry (with Specialisation in Food Chemistry)

1992-2002 Department of Chemistry, School of Natural Sciences, University of Patras, Greece, GPA 7.16/10. Certification of Oenology

2.1.4 Completion of Formal Studies

1994 4$^{th}$ General Lyceum of Patras, Patras, Greece, Graduation Grade: $16^{8/10}$/20.

## 2.2 Doctoral degree (PhD)

Title of Doctoral Thesis: "Redox React ions of Arsenic Compounds and Study of Bunsen's disulfide, $Me_4As_2S_2$", with Advisory Committee:

- Panagiotis Ioannou, Professor of Department of Chemistry, University of Patras, (Supervisor).
- Spyridon Perlepes, Professor of Department of Chemistry, University of Patras.
- Gerasimos Tsivgoulis, Assistant Professor of Department of Chemistry, University of Patras.

## 2.3 Master's Degree (MSc)

Title of master Thesis: "Encapsulation of mastic essential oil in liposomes via the Ethanol Injection Method", with Advisory Committee:

- Sophia Antimisaris, Professor of Pharmaceutical Technology at the Department of Pharmacy, Faculty of Health Sciences, University of Patras (Supervisor).
- Pavlos Klepetsanis, Assistant Professor of the Department of Pharmacy, Faculty of Health Sciences, University of Patras.
- Sotiropoulou Georgia, Professor of Pharmacognosy, Department of Pharmacy, Faculty of Health Sciences, University of Patras.

## 2.4 Diploma thesis

Title of diploma thesis: "Morphological and Physiological Development of the fungus Aspergillus oryzae with the use of new substrates. Use of Aspergillus oryzae on the elaboration of starch containing substrates and the production of microbial protein", Supervisor: Athanasios Koutinas, Professor of Department of Chemistry, University of Patras.

# 3 TEACHING ACTIVITIES

## 3.1 Teaching of academic courses

2005-2006 Teaching and Laboratory assistant for the course Inorganic Chemistry II (2nd semester), Department of Chemistry, School of Natural Sciences, University of Patras, Greece.

## 3.2 Teaching of school courses

2008-today Organic and Inorganic Chemistry. Private lessons (individuals or small groups of persons) to high school and University students.

2008-today Physics. Private lessons (individuals or small groups of persons) to University students.

2008-today Mathematics. Private lessons (individuals or small groups of persons) to high school students.

## 3.3 Teaching of foreign languages

2008-today English. Private lessons (individuals or small groups of persons) to beginners (adults or children) and advanced (adults) for preparation for ECPE.

2008-today Italian. Private lessons (individuals or small groups of persons) to beginners (adults).

# 4 PARTICIPATION IN SEMINARS

2018 Seminar: "Good Manufacturing Practice on Cosmetics, Standard ISO 22716: 2007". The seminar took place at the Department of Chemistry of the School of Sciences of the University of Patras.

2017 Seminar: "Lyophilisation of Pharmaceutical Products". The seminar took place at the Department of Pharmacy of the School of Health Sciences of the University of Patras.

2017 Seminar: "Seminar on Occupational Health and Safety". The seminar took place at the Conference and Cultural Center of the University of Patras.

2017 Workshop: «Traditional Herbal Medicinal Products: a rough HOW TO guide. / The European Regulation of Cosmetic Products: what can I claim? / Do you want to cure or beautify? Interactive session and Q/A / Art and science of Micropropagation». The Workshop took place at the Department of Pharmacy of the School of Health Sciences of the University of Patras.

2005 Seminar of the Red Cross: «First Aid», at the premises of INTRACOM S.A. in Patras, Greece.

2000 Seminar: "SOFTWARE ENGINEERING COURSE E4.01", at the premises of INTRACOM S.A. in Patras, Greece.

# 5 SCIENTIFIC WORK

## 5.1 Theses

5.1.1 Sideris, T. D., "Encapsulation of mastic essential oil in liposomes via the Ethanol Injection Method". The thesis is submitted to the Department of Pharmacy, School of Health Sciences, University of Patras, Greece in fulfilment of the requirements for the master in Pharmacy, Cosmetics. Supervisor: Sophia Antimisaris, Professor of Pharmaceutical Technology at the Department of Pharmacy, Faculty of Health Sciences, University of Patras, 2022.

5.1.2 Sideris, T. D., "Redox React ions of Arsenic Compounds and Study of Bunsen's disulfide, $Me_4As_2S_2$". The thesis is submitted to the Department of Chemistry, School of Natural Sciences, University of Patras, Greece in fulfilment of the requirements for the Degree of Doctor of Philosophy. Supervisor: Dr. Panagiotis Ioannou, Professor of the Department of Chemistry University of Patras. National Documentation Center, Greece, 2012. (http://thesis.ekt.gr/thesisBookReader/id/28491#page/1/mode/2up)

5.1.3 Sideris, T. D., "Morphological and Physiological Development of the fungus Aspergillus oryzae with the use of new substrates. Use of Aspergillus oryzae on the elaboration of starch containing substrates and the production of microbial protein". The thesis is submitted to e Department of Chemistry, School of Natural Sciences, University of Patras, Greece in fulfilment of the requirements for the diploma in Chemistry. Supervisor: Dr. A. Koutinas, Professor of the Department of Chemistry University of Patras, 2002.

## 5.2 Publications in scientific journals (after review)

5.2.1 T. D. Sideris, G. M. Tsivgoulis, D. G. Vachliotis, P. V. Ioannou, The reactions of triethylamine-activated octasulfur with thioarsinites, $L_2As$-SPh (L = Me, Ph), Bunsen's cacodyle disulfide, $Me_2As(S)$-S-$AsMe_2$, and triphenylarsine, Main Group Chemistry, Vol. 8, Issue 3, pp. 163-176, 2009 (DOI:10.1080/10241220903134429) (1 citation).

5.2.2 P. V. Ioannou, D. G. Vachliotis, and T. D. Sideris, The Other Face of Bunsen's Cacodyl Disulfide. $Me_2As(S)$-S-$AsMe_2$: The Lewis-base Behaviour Towards Heavy Metal Cations, Zeitschrift für anorganische und allgemeine Chemie, Vol. 635, Issue 2, pp. 329-336, 2009 (DOI:10.1002/zaac.200800391) (1 citation).

5.2.3 P. V. Ioannou, D. G. Vachliotis, and T. D. Sideris, The Electrophilic Character of Bunsen's Cacodyl Disulfide, $Me_2As(S)$-S-$AsMe_2$, Zeitschrift für anorganische und allgemeine Chemie, Vol. 633, Issue 11-12, pp. 2077-2084, 2007 (DOI:10.1002/zaac.200700279) (2 citations).

5.2.4 T. D. Sideris, P. V. Ioannou, Ascorbic Acid/Iodine and Triphenylphosphine/Iodine as Reducing Agents for the As(V)=O Group, Phosphorus, Sulfur, and Silicon and the Related Elements, Vol. 181, Issue 5, pp. 1017-1030, 2006 (DOI:10.1080/10426500500272335) (2 citations).

5.2.5 T. D. Sideris, P. V. Ioannou, Studies on the air oxidation of some arsenic(III) compounds, Phosphorus, Sulfur, and Silicon and the Related Elements, Vol. 181, Issue 4, pp. 751-762, 2006 (DOI: 10.1080/10426500500271402) (5 citations).

# 6 PROFESSIONAL EXPERIENCE

## 6.1 Professional activities

June 2019 – Present: Freelance Translator/Proofreader/Subtitler

May 2000 – June 2019: INTRACOM S.A., Department of Patras, 254 Panepistimiou Str., Patras, 26443, Greece (http://www.intracom-telecom.com)

## 6.2 Work responsibilities

### 6.2.1 As a Translator/Proofreader/Subtitler

- Subtitling services
- Translation and Proofreading of texts (scientific, technical, educational, and literary)
- Translation of scientific texts (Chemistry, Pharmaceutics, Biology, Medicine, Software), especially International Applications Published Under the Patent Cooperation Treaty (PCT)
- Translation of Clinical Texts (Clinical Trials, Documents of Consent and Related Documents)
- Translation of Labels of Medicines
- Translation of Personal Documents (Birth Certificates, Diplomas, Medical Examinations etc.)
- Student mentoring

### 6.2.2 As a Computer Analyst

- Update/Upgrade Tester
- Subroutine programming and testing in OPS programming language
- Solution Package Preparation
- Test Description Expert
- Solution Entry Packaging Requests Handling
- Desk Check of Solutions for Upgrade Impacts
- Desk Check of solutions requested by the customer and issued by the Design
- Maintenance Teams in ASA programming language
- Programming and Desk Checking of subroutines in OPS programming language
- Focusing on subroutine scripting and testing in OPS programming language
- Programming in PLEX and SDL programming languages
- Documentation in Edml, Sgml and Word

## 6.3 Professional societies membership

Member of Association of Greek Chemists (EEX – www.eex.gr) (since 2002)

# 7 OTHER

| | | |
|---|---|---|
| 7.1.1 | July 2019-today | President of the Board of the amateur theatrical group «RE.FE.NE.» (http://refenepatras.gr/). Participation in plays. |
| 7.1.2 | 2017-2019 | Member of the amateur theatrical group «RE.FE.NE.» (http://refenepatras.gr/). Participation in plays. |
| 7.1.3 | 2015 | 2nd Prize at the 1st Panhellenic Poetry Competition "Lefkada-Island Poem". Title of the poem: «Στο ακρωτήριο» ("At the Cape").<br>Organizers of the Competition: the Cultural Center of the Municipality of Lefkada, the Association of Lecturers of Lefkada and the Society of Greek Writers.<br>Subject: "Darkness can not evade the darkness. Only the light can. Hate can not hate hate. Only love can." (Martin Luther King, 1929-1968). |
| 7.1.4 | 2015 | Recitation of poems on Stage, at the ACT Theater in Patras. Two poems were narrated. «Το ψητό» ("The Roast") and an untitled. |
| 7.1.5 | 2015 | The poem «Ο σπόρος» ("The seed") was written specifically for the occasion and was read at the "Feast of the Tree" event at the Kokkinohori Gymnasium of Panos Ioannou in Cyprus, as well as at the Rizokarpasou High School in occupied Cyprus. |
| 7.1.6 | 2014 | Publication: «Οι Σκέψεις του Φαροφύλακα» ("The thoughts og the Lighthouse keeper"), ΜΙΚΡΟ ΠΕΖΟ – Η ΤΕΧΝΗ ΤΟΥ ΔΙΗΓΗΜΑΤΟΣ, Vol. 1 (in Greek). |
| 7.1.7 | 2000 | Publication: «Τα φύλλα και οι καρποί» (The leaves and the fruits), Anthology of Poetry, University of Patras (in Greek). (ISBN 960-530-046-X, ISBN-13 978-960-530-046-3) |
| 7.1.8 | 1998-2000 | Founder and editor of the magazine "To Passo" ("The Pass"). |
| 7.1.9 | 1988-1991 | Member of the chess team of Cultural Club of Prophetes Elias of Patras, Greece. Participation in local championships of the Prefecture of Achaia. |

# PART 2: ANALYTICAL MEMORANDUM OF SCIENTIFIC PUBLICATIONS

# 8 PRESENTATION OF SCIENTIFIC WORK

## 8.1 Master Thesis

5.1.1: Sideris T. D., "Encapsulation of mastic essential oil in liposomes via the Ethanol Injection Method", Department of Pharmacy, School of Health Sciences, University of Patras, Greece, April 2022.

Liposomes are spherically shaped nanovesicles, which, due to the unique properties of their dual structure, are used as carriers for both lipophilic and hydrophilic molecules. They can be synthesised from cholesterol and mainly natural, non-toxic phospholipids. Because of their size and their hydrophobic and hydrophilic groups, liposomes are promising systems for drug delivery. Among their advantages are increased drug activity, non-toxicity, flexibility in targeting and thus efficacy. Their main disadvantages are their solubility, as well as properties that affect their in vivo stability. Applications of liposomes in pharmaceuticals include protection of trapped drug against enzymatic degradation in circulation, drug targeting, encapsulation of specific drugs, enhancement of intracellular drug uptake, use as immunotherapeutic agents, use in cancer treatment and in the treatment of parasitic diseases and infections, and others. Essential oils are natural, volatile and complex plant compounds, oily or similar to natural lipids, often characterised by an intense odour. They have low solubility in water, but are soluble in fats, alcohol, organic solvents and other substances and are generally hydrophobic liquids at room temperature. They contain a variety of chemical classes, mainly terpenes, but also phenylpropanoids and other compounds, albeit in lower frequency but not necessarily in lower proportions. Essential oils exhibit antimicrobial activity, find widespread use in cosmetics, and there are limitations and challenges to their proper clinical use. Most essential oils are biologically unstable, sensitive to oxygen, light and temperature, and some contain unstable functional groups in which oxygen acts as an oxidant for alcohols and aldehydes. Thus, the method of encapsulation in liposomes is used to enhance their solubility and bioavailability, their protection, as well as to control their release, thus improving their effectiveness.

## 8.2 Doctoral Thesis

5.1.2: Sideris T. D., "Redox React ions of Arsenic Compounds and Study of Bunsen's disulfide, $Me_4As_2S_2$", Department of Chemistry, Division B: Physical Chemistry, Inorganic and Nuclear Chemistry, School of Natural Sciences, University of Patras, Greece, June 2012.

Arsenic compounds, in which arsenic is in the oxidation states As(III) and As(V), have significant biological significance, which is related to the reactivity of these compounds, but also to the mechanisms of oxidation and reduction reactions from one oxidation state of arsenic to another. In addition, methylated derivatives of trivalent and pentavalent arsenic, are proven toxic because they interfere in the signal transmission pathways. They participate in redox reactions, they react with molecular oxygen etc., thus having an influence on important cellular proteins and DNA. Taking into considerarion the above, we studied some arsenic compounds for their redox activity. The compounds selected, contained as substituents of the arsenic alkyl, phenyl and substituted phenyl groups. In particular, we studied the reduction of nitro- and amino- phenylarsonic acids and triphenylarsine oxide, with the use of the reducing systems ascorbic acid/iodine and triphenyl phosphine/iodine. Thus, there was a comparison in the contribution of the substituents on the ease of the reduction of As(V) to As(III). Then, we studied the oxidation by air of arsenic compounds, namely esters and thioesters, and thiophenol. The kinetic study of these reactions, lead to conclusions regarding the influence of the nature of the substituents, and also the influence of the atoms which are bound to As (O or S). Special attention was paid to the study of cacodyl disulfide (Bunsen's disulfide):a compound that has not been studied enough. This compound is of special interest because it contains As in both of its oxidation states, As(III) and As(V). Furthermore, we made a general study of the methods of synthesis of cacodyl disulfide and its chemical behaviour, its stability in the presence of $MeOH/H_2O$ and $H_2S$, and its reaction with $H_2S$. Then, we studied the chemical behaviour of cacodyl disulfide towards heavy metal cations, as well as the chemical behaviour of the products of these reactions. Next step was to study the chemical behaviour of cacodyl disulfide with nucleophiles of various elements of the $15^{th}$ Group of the Periodic Table, as well as of the chemical behaviour of the products of these reactions. Finally, we studied the reactions of triethylamine-activated octasulfur with thioarsinites, cacodyl disulfide, and triphenylarsine.

## 8.3 Graduate thesis

5.1.3: Sideris T. D., "Morphological and Physiological Development of the fungus Aspergillus oryzae with the use of new substrates. Use of Aspergillus oryzae on the elaboration of starch containing substrates and the production of microbial protein", Department of Chemistry, School of Natural Sciences, University of Patras, Greece, 2002.

The species of fungus Aspergillus is used in the industry, mainly in the alcoholic fermentation, the food fermentation in Asian countries, the production of organic acids, vitamins, antibiotics, enzymes, substrate conversion, composting, and the production of toxins. In addition, it finds applications in biotechnology, microbial protein production, and starch degradation. In this study, mycelial fungus Aspergillus oryzae was studied. The morphology and physiology of various nutrient starch substrates and temperatures in solid culture were studied. A study of the morphology and physiology in liquid culture was also undertaken. The pellets resulting from the liquid culture were studied via the use of a bioreactor together with Saccharomyces cerevisiae to produce bioethanol, as well as fish food.

## 8.4 Publications in scientific journals

5.2.1 T. D. Sideris, G. M. Tsivgoulis, D. G. Vachliotis, P. V. Ioannou, The reactions of triethylamine-activated octasulfur with thioarsinites, $L_2As$-SPh (L = Me, Ph), Bunsen's cacodyle disulfide, $Me_2As(S)$-S-$AsMe_2$, and triphenylarsine, Main Group Chemistry, Vol. 8, Issue 3, pp. 163-176, 2009 (DOI:10.1080/10241220903134429).

The reactions of $L_2As$–SPh (L = Me or Ph) with varying amounts of octasulfur, activated by triethylamine, aiming at the preparation of $L_2As$–S–$AsL_2$ and $L_2As(S)$–S–$AsL_2$ were slow and very complex in the sense that the composition in solution changed on work up. Generally, the disulfide $L_2As(S)$–S–$AsL_2$ was formed admixed with $L_2As$–S–$NEt_3$ + and $L_2As$–S−. The disulfide $Ph_2As(S)$ –S–$AsPh_2$ was not stable during chromatography giving sulfur (S8) and $Ph_2As$–S–$AsPh_2$ which was autoxidized to $Ph_2AsO_2H \cdot Ph_2As(S)OH$. Bunsen's cacodyl disulfide, $Me_2As(S)$–S–$AsMe_2$, was electrophilic toward activated octasulfur reacting at $As^{=}S$ sulfur. Triphenylarsine was oxidized to pure triphenylarsine sulfide in boiling ethanol by octasulfur in the presence of a catalytic amount of triethylamine in short time and with excellent yields.

5.2.2: P. V. Ioannou, D. G. Vachliotis, and T. D. Sideris, The Other Face of Bunsen's Cacodyl Disulfide. $Me_2As(S)$-S-$AsMe_2$: The Lewis-base Behaviour Towards Heavy Metal Cations, Zeitschrift für anorganische und allgemeine Chemie, Vol. 635, Issue 2, pp. 329-336, 2009 (DOI:10.1002/zaac.200800391).

The reaction of Bunsen's cacodyl disulfide, $Me_2As(S)$-S-$AsMe_2$, with heavy metal cations in methanol produces insoluble salts (complexes) of dimethyldithioarsinic acid, $Me_2AsS_2H$, and dimethyl arsenium ion, $Me_2As:^+$. This arsenium ion prefers to react with $Me_2As(S)$-S-$AsMe_2$, when in excess, compared to $AcO^-$ or $MeOH/H_2O$ and it is also reactive towards sulfur ($S_x$, x = 1-8) producing the stabilized dimethylarsino sulfenium cation, $Me_2As\text{-}\ddot{\underset{\ddot{}}{S}}^{+} \leftrightarrow Me_2\overset{+}{A}s=\ddot{\underset{\ddot{}}{S}}$. The complexes $(Me_2AsS_2)_xM$ (x = 1 or 2) are unstable in the presence of their own heavy metal cations decomposing to colored solids. In an attempt to prepare salts of $Me_2AsSH$, the reactions of $(Me_2AsS_2)_xM$ with triphenylphosphine and trimethyl phosphite gave the metal sulphide and $Me_2As$-S-$AsMe_2$ instead.

5.2.3: P. V. Ioannou, D. G. Vachliotis, and T. D. Sideris, The Electrophilic Character of Bunsen's Cacodyl Disulfide, $Me_2As(S)$-S-$AsMe_2$, Zeitschrift für anorganische und allgemeine Chemie, Vol. 633, Issue 11-12, pp. 2077-2084, 2007 (DOI:10.1002/zaac.200700279).

The behaviour of Bunsen's cacodyl disulfide, $Me_2As(S)$-S-$AsMe_2$ towards Lewis bases of group 15 of the Periodic Table was studied mainly by $^1H$ NMR. While $Ph_3N$ did not react, 4-dimethylaminopyridine and triethylamine isomerized the disulphide to $Me_2AsSSAsMe_2$. $Ph_3P$, $(PhO)_3P$, $(MeO)_3P$, $(EtO)_3P$ and $Ph_3As$ desulfurized the disulfide to $Me_2AsSAsMe_2$. $(PhS)_3P$ also desulfurized the disulfide but $Me_2As$-S-SPh was also produced. $Me_2As$-SSPh was the main product with $(PhS)_3As$ nucleophile. In most sys tems, cationic and anionic species were formed. The results are best interpreted by initial attack of the nucleophile on the electrophilic As=S sulfur.

5.2.4: T. D. Sideris, P. V. Ioannou, Ascorbic Acid/Iodine and Triphenylphosphine/Iodine as Reducing Agents for the As(V)=O Group, Phosphorus, Sulfur, and Silicon and the Related Elements, Vol. 181, Issue 5, pp. 1017-1030, 2006 (DOI:10.1080/10426500500272335).

The scope of ascorbic acid/iodine and triphenylphosphine/iodine in methanol for the direct reduction of arsenic(V) compounds having the As=O group has been investigated. Ascorbic acid/iodine reduces arsonic acids, diphenylarsinic acid (but not dimethylarsinic acid), and triphenylarsine oxide. The rates of reduction depend on the electronic effects of the ligands bound to arsenic and on the hydrogen-bonding strength of the species, when present.When the As(V) compound has an $–NH_2$ or an $-NH_3^+$ group, the reduction product reacts with a ketonic form of dehydroascorbic acid, giving condensation product(s). Triphenylphosphine / iodine reduced slowly the zwitterionic o-aminophenylarsonic acid but reduced faster the hydrochloric acid salt of the same acid. It reduced dimethylarsinic acid as well because the powerful electron-withdrawing $Ph_3P^+$ coordinated to As=O seems to outweigh the electronic and hydrogen bonding effects.

5.2.5: T. D. Sideris, P. V. Ioannou, Studies on the air oxidation of some arsenic(III) compounds, Phosphorus, Sulfur, and Silicon and the Related Elements, Vol. 181, Issue 4, pp. 751-762, 2006 ( DOI: 10.1080/10426500500271402).

The air oxidation of As(III) oxides [$(PhAsO)_x$ and $Ph_2As\text{-}O\text{-}AsPh_2$] and thioesters [$Ph\text{-}As(SPh)_2$, $Ph_2As\text{-}SPh$ $Me\text{-}As(SPh)_2$, $Me_2As\text{-}SPh$], in chloroform and in methanol was studied. The air oxidation in chloroform was faster probably because the solubility of dioxygen is greater than in methanol, and it is favored by the electron-withdrawing phenyl groups bound to As(III). The products obtained were the arsonic or arsinic acids and diphenyl disulfide. In one case, diphenyl disulphide and thiophenol were produced. The results can be rationalized by assuming first hydrolysis of the As(III) compounds to arsonous or arsinous acids followed by their oxidation to arsonic and arsinic acids, which should involve the binding of dioxygen to As(III). The other hypothesis assumes first the binding of dioxygen to As(III) of these oxides and thioesters followed by the decomposition of the adducts. The binding of the ground state dioxygen to As(III) may have biochemical implications for toxicity or chemotherapy of arsenic(III) compounds.

# 9 CITATIONS

## 9.1 Brief presentation of citations

In this section the citations of the research work of T. D. Sideris are given, according to three known data bases: Scopus, Google Scholar and Researchgate. Table 1 lists the number of the citations from other researchers (excluding self-citations and those mentioned by his co-authors) and the corresponding h-index, as provided from each of the data bases, from all data bases or from all sources available. Respectively, Table 2 includes all the citations including the self-citations or his collaborators' ones and the corresponding h-index.

Table 1: Number of others' citations and corresponding h-indices

| | Scopus | Google Scholar | Researchgate | Scopus, Google Scholar or Researchgate | Every source |
|---|---|---|---|---|---|
| Number of articles with others' citations | 5 | 5 | 3 | 5 | 5 |
| Number of others' citations | 10 | 9 | 6 | 11 | 11 |
| h-index | 2 | 2 | 1 | 2 | 2 |

Table 2: Number of total citations and corresponding h-indices

| | Scopus[1] | Google Scholar[2] | Researchgate[3] | Scopus, Google Scholar or Researchgate | Every source |
|---|---|---|---|---|---|
| Number of articles with citations | 5 | 5 | 5 | 5 | 5 |
| Number of total citations | 44 | 43 | 36 | 45 | 45 |
| h-index | 4 | 4 | 4 | 4 | 4 |

## 9.2 Number of citations per publication

Table 3 provides the number of citations per article excluding the self-citations or those from her co-authors. The numbering of section 5.2 is used. The articles with no citations are not included in the Table.

Table 3: Number of others' citations per article

| No. | Article | Number of hetero-citations | | | | |
|---|---|---|---|---|---|---|
| | | Scopus | Google Scholar | Researchgate | Scopus, Google Scholar or Researchgate | Every source |
| 1 | 5.2.1 | 1 | 1 | | 1 | 1 |
| 2 | 5.2.2 | 1 | 1 | | 1 | 1 |
| 3 | 5.2.3 | 2 | 2 | 1 | 2 | 2 |
| 4 | 5.2.4 | 1 | 1 | 1 | 2 | 2 |
| 5 | 5.2.5 | 5 | 4 | 4 | 5 | 5 |

Respectively, Table 4 gives the number of total citations per article. The numbering of section 5.2 is used again.

Table 4: Number of total citations per article

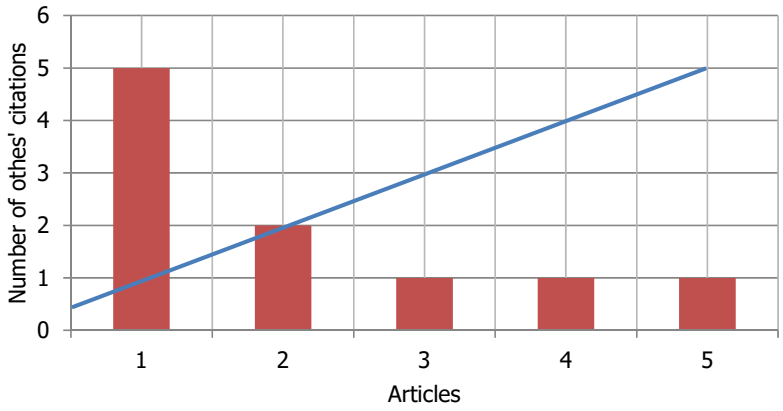
| No. | Article | Number of total citations | | | | |
|---|---|---|---|---|---|---|
| | | Scopus | Google Scholar | Researchgate | Scopus, Google Scholar or Researchgate | Every source |
| 1 | 5.2.1 | 3 | 3 | 2 | 3 | 3 |
| 2 | 5.2.2 | 8 | 8 | 5 | 8 | 8 |
| 3 | 5.2.3 | 16 | 16 | 13 | 16 | 16 |
| 4 | 5.2.4 | 4 | 4 | 4 | 5 | 5 |
| 5 | 5.2.5 | 13 | 12 | 12 | 13 | 13 |

## 9.3 Charts of h-index

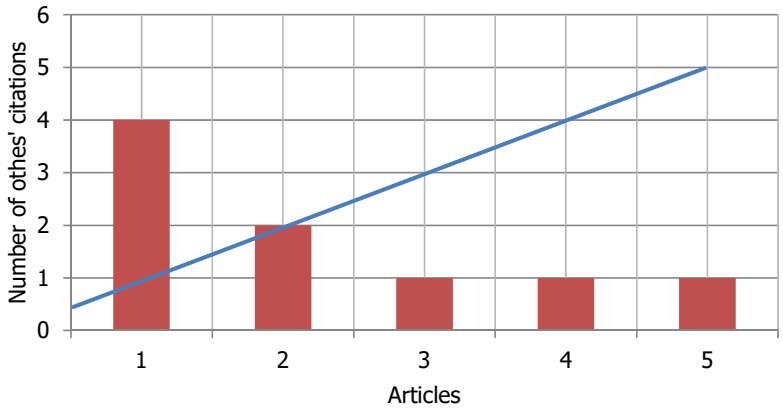
In the following Figures, charts of h-index are given referring to the citations of other researchers, excluding the self-citations or the ones by his co-authors.

[1] https://www.scopus.com/authid/detail.uri?authorId=8564801300
[2] https://scholar.google.gr/citations?user=jWACNzIAAAAJ&hl=en
[3] https://www.researchgate.net/profile/Isabella_Vassilopoulou/citations?sorting=citationCount&page=1

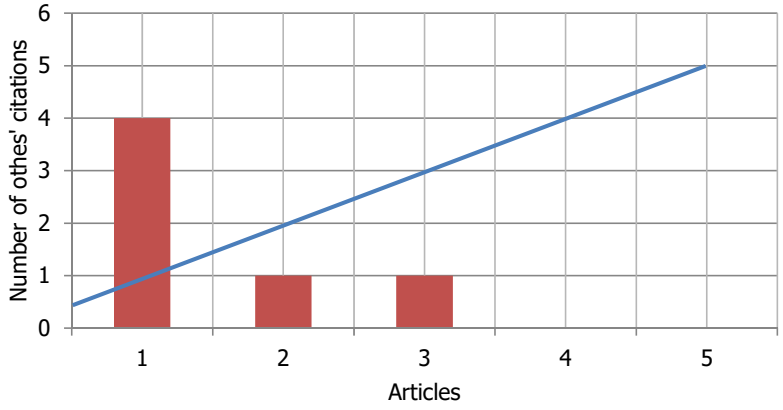
**Scopus h-index = 2**

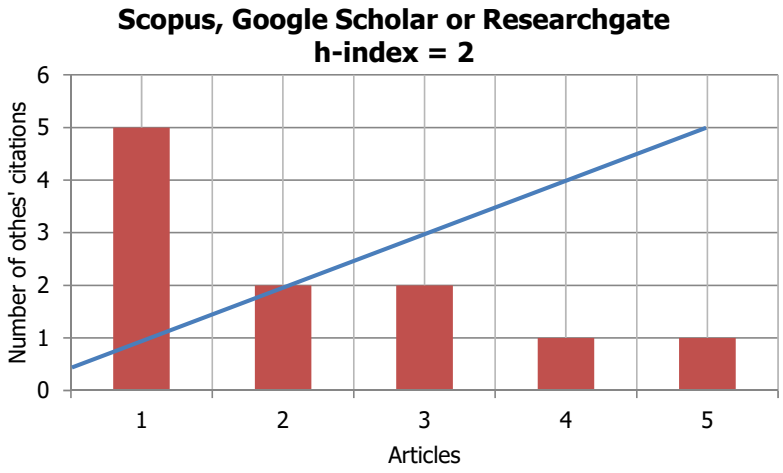


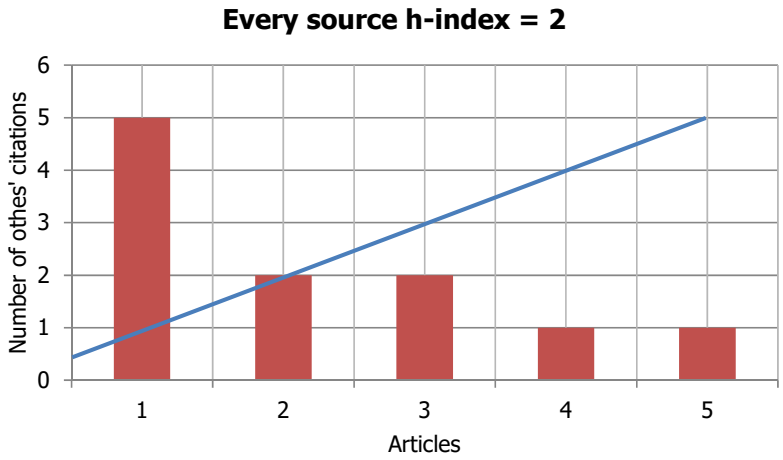

**Google Scholar h-index = 2**




**Researchgate h-index = 1**






## 9.4 Detailed presentation of citations per publication

A detailed presentation of citations per publication follows. With black letters the citations excluding self-citations and citations from co-authors are presented, while with grey letters the self-citations or citations from the co-authors. In parentheses, the data base is given, in which each citation is mentioned.

5.2.1: T. D. Sideris, G. M. Tsivgoulis, D. G. Vachliotis, P. V. Ioannou, The reactions of triethylamine-activated octasulfur with thioarsinites, $L_2As$-SPh (L = Me, Ph), Bunsen's cacodyle disulfide, $Me_2As(S)$-S-$AsMe_2$, and triphenylarsine, Main Group Chemistry, Vol. 8, Issue 3, pp. 163-176, 2009.

9.4.1 Haiduc, I., "Dithioarsinates revisited. A mini-review", Studia Universitatis Babes-Bolyai Chemia 61(3TOM1), pp. 9-18, 2016. (Scopus, Google Scholar)

9.4.2 Ioannou, P. V. and Vachliotis, D. G., "The Electrophilic Character of Bunsen's Cacodyl Disulfide, $Me_2As(S)$-S-$AsMe_2$, Towards Some Nucleophiles of Groups 15 and 16", Zeitschrift fur Anorganische und Allgemeine Chemie, 641(3-4), pp. 710-714, 2015. (Scopus, Google Scholar, Researchgate)

9.4.3 Tsivgoulis, G. M., Kordopati, G. G., Vachliotis, D. G. and Ioannou, P. V., "The Reaction of Diethylthiophosphinyl Iodide, $Et_2P(S)I$, with Nucleophiles", Zeitschrift fur Anorganische und Allgemeine Chemie, 643(16), pp. 1075-1081, 2017. (Scopus, Google Scholar, Researchgate)

5.2.2: P. V. Ioannou, D. G. Vachliotis, and T. D. Sideris, The Other Face of Bunsen's Cacodyl Disulfide. $Me_2As(S)$-S-$AsMe_2$: The Lewis-base Behaviour Towards Heavy Metal Cations, Zeitschrift für anorganische und allgemeine Chemie, Vol. 635, Issue 2, pp. 329-336, 2009.

9.4.4 Haiduc, I., "Dithioarsinates revisited. A mini-review", Studia Universitatis Babes-Bolyai Chemia 61(3TOM1), pp. 9-18, 2016. (Scopus, Google Scholar)

9.4.5 Ioannou, P. V., Vachliotis, D. G. and Chrissanthopoulos, A., "The Reaction of Bunsen's Cacodyl Disulfide, Me2As(S)-S-AsMe2, with Iodine: Preparation and Properties of Dimethylarsinosulfenyl Iodide, Me2As-S-I", Zeitschrift fur Anorganische und Allgemeine Chemie, 641(7), pp. 1340-1346, 2015. (Scopus, Google Scholar, Researchgate)

9.4.6 Ioannou, P. V. and Vachliotis, D. G., "The Electrophilic Character of Bunsen's Cacodyl Disulfide, $Me_2As(S)$-S-$AsMe_2$, Towards Some Nucleophiles of Groups 15 and 16", Zeitschrift fur Anorganische und Allgemeine Chemie, 641(3-4), pp. 710-714, 2015. (Scopus, Google Scholar, Researchgate)

9.4.7 Ioannou, P. V., "The reactions of $Me_2AsS_2Na \cdot 2H_2O$ and $Me_2As(S)$-S-$AsMe_2$ with Cu(II) and Tl(III): Reaction products and probable mechanisms", Main Group Chemistry, 13(3), pp. 243-250, 2014. (Scopus, Google Scholar)

9.4.8 Ioannou, P. V. and Vachliotis, D. G., "Tris(dimethyldithioarsinato) complexes of group 15 metals, $M(S_2AsMe_2)_3$ [M = (As), Sb, Bi]", Main Group Chemistry, 11(4), pp. 267-273, 2012. (Scopus, Google Scholar, Researchgate)

9.4.9 Ioannou, P. V. and Vachliotis, D. G., "Tris(dimethyldithioarsinato) complexes of group 13 metals, $M(S_2AsMe_2)_3$ [M = Al, Ga, In, Tl]", Main Group Chemistry, 11(3), pp. 235-244, 2012. (Scopus, Google Scholar, Researchgate)

9.4.10 Ioannou, P. V., Vachliotis, D. G., Nastopoulos, V. and Tasiopoulos, A.J., "Preparation and properties of sodium dimethyldithioarsinate dihydrate, $Me_2AsS_2Na$-$2H_2O$ and palladium(ii) dimethyldithioarsinate, $(Me_2AsS_2)_2Pd$", Zeitschrift fur Anorganische und Allgemeine Chemie, 635(13-14), pp. 2203-2209, 2009. (Scopus, Google Scholar, Researchgate)

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5.2.3: P. V. Ioannou, D. G. Vachliotis, and T. D. Sideris, The Electrophilic Character of Bunsen's Cacodyl Disulfide, $Me_2As(S)$-S-$AsMe_2$, Zeitschrift für anorganische und allgemeine Chemie, Vol. 633, Issue 11-12, pp. 2077-2084, 2007.

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9.4.17 Ioannou, P. V., "The reactions of $Me_2AsS_2Na \cdot 2H_2O$ and $Me_2As(S)$-S-$AsMe_2$ with Cu(II) and Tl(III): Reaction products and probable mechanisms", Main Group Chemistry, 13(3), pp. 243-250, 2014. (Scopus, Google Scholar)

9.4.18 Papatriantafyllopoulou, C., Nastopoulos, V. and Ioannou, P.V., "The structure of bis(dimethyldithioarsinato)gallium(III) sulfide $[(Me_2AsS_2)_2Ga]_2S \cdot 0.75H_2O$: A hydrolysis product of $(Me_2AsS_2)_3Ga$ that contains a bridging sulfide and both pendant and bridging dimethyldithioarsinato

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9.4.39 Ioannou, P. V. and Tsivgoulis, G. M., "The reduction of p-arsanilic acid (p-aminophenylarsonic acid) to its arsonous acid or arsine oxide: A case study", Main Group Chemistry, 14(3), pp. 237-253, 2015. (Scopus, Google Scholar, Researchgate)

9.4.40 Ioannou, P. V. and Tsivgoulis, G. M., "Thiolates of arsenic(III), antimony(III), and bismuth(III) with dl-α-dihydrolipoic acid", Monatshefte fur Chemie, 145(6), pp. 897-909, 2014. (Scopus, Google Scholar, Researchgate)

9.4.41 Tsivgoulis, G. M. and Ioannou, P. V., "The nucleophilicity of $M(SPh)_3$ (M=P, As) and $PhAs(SPh)_2$ towards carboxylic acid anhydrides", Main Group Chemistry, 10(1), pp. 51-62, 2011. (Scopus, Google Scholar, Researchgate)

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