

THE UNIVERSITY OF GUILAN

Curriculum Vita

2023

Personal Information:

- A) **NAME:** Atiyeh Mahdavi
- B) **Date of Birth:** August 1983
- C) **Place of Birth:** Khalkhal, Iran
- D) **Sex:** Fmale
- E) **BUSINESS ADDRESS:** Department of Biological Sciences, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan 45195-1159, Iran
- E) **BUSSINESS TELEPHONE:** +98 24 33153310
FAX: +98 24 33153318
Mobile +989141546906
- E-MAIL: a.mahdavi@iasbs.ac.ir, atiyehmahdavi@gmail.com
- F) **DEGREE HELD:** B.Sc. in Biology from University of Guilan Rasht, Iran, 2005
M.Sc. in Biochemistry, from University of Guilan, Rasht, Iran, 2008
Ph.D. in Biochemistry, University of Guilan, 2013
- G) **CURRENT RANK AT THE UNIVERSITY OF Advanced Studies in Basic Sciences:** Assistant Professor of Biochemistry
- H) **PROFESSIONAL MEMBERSHIP:**
Member of excelent intelligence
Member of Young Researcher association
Member of BMN (Genius National Association)
- I) **AWARDS AND HONOURS:**
Top student during B.Sc in a class of 110 students, Score 17.96/20
Top student during M.Sc., Score: 19.13/20
Top student during PhD, Score: 19.33/20
City Elected Woman, 2009
State Elected Woman, 2009
- J) **CURRENT AREAS OF SCHOLARLY INTEREST AND EXPERTY:**
- * Ligandbinding (in cancer and enzymology)
 - * Enzyme Kinetics
 - * Protein engineering

- * Bioluminescent systems and photoproteins
- * Vaccine design and production
- * Structure-function relationships
- * Protein Immobilization
- * Extraction, purification, characterization of biomolecules
- * PCR and related topics
- * Bioinformatics

K) COURSE TAUGHT:

Biochemistry of proteins & nucleic acids, Enzymology, Biotechnology, Biochemical methods, Advanced molecular biology, Gene cloning etc for biochemistry Msc students. Biochemistry and Biochemistry experimental course, Cellular and Molecular Biology, Biophysics, Radiation Biology etc. for B.Sc. students in nursing, biology, microbiology and midwifery.

L) Books:

Practical methods in virology, cell culture & molecular techniques (with protocol). A. Abdoli, **A. Mahdavi**, H. Fahimi, N. Rasooli, E. Jazayeri (written in Persian).

M) Journal Articles:

1. “*In silico* and *in vitro* studies of novel derivatives of tyrosol and raspberry ketone as the mushroom tyrosinase inhibitors. Nahid Mohammadsadeghi, **Ativeh Mahdavi***, Fariba Saadati, Fakhrossadat Mohammadi. Food Chemistry. Food Chemistry. Volume 424, 30 October 2023, 136413.
2. Homobimetallic Au(I)–Au(I) and Heterotrimetallic Au(I)–Fe(II)–Au(I) Complexes with Dialkyldithiophosphates and Phosphine Ligands: Structural Characterization, DFT Analysis, and Tyrosinase Inhibitory and Biological Effects Abdollah Neshat, **Ativeh Mahdavi**, Mohammad Reza Yousefshahi, et. al. ACS Omega 2023, 8, 20423–20439
3. “Evaluation of inhibitory effects of some novel phenolic derivatives on the mushroom tyrosinase activity: Insights from spectroscopic analyses, molecular docking and *in vitro* assays”. **Ativeh Mahdavi***, Nahid Mohammadsadeghi, Fakhrossadat Mohammadi, Fariba Saadati. Food Chemistry 387 (2022) 132938.
4. “Pomegranate seed polyphenol-based nanosheets as an efficient inhibitor amyloid fibril assembly and cytotoxicity of HEWL”. Ali Akbar Meratan, Vahid Hassani, **Ativeh Mahdavi**, and Nasser Nikfarjam. RSC Adv., 2022, 12, 8719.
5. “Physicochemical studies on the structural stability of the HIV-1 vaccine candidate recombinant Tat protein. Zahra Falahati, **Ativeh Mahdavi***, Leila Hassani, 2020. *International Journal of Biological Macromolecules* 164 (2020) 403–414.
6. “Boosting Tat DNA vaccine with Tat protein stimulates strong cellular and humoral immune responses in mice. Samira Alipour, **Ativeh Mahdavi***. Biotechnology Letters, volume 42, 505–517(2020).

7. “The effects of CpG-ODN and Chitosan adjuvants on the elicitation of immune responses induced by HIV1-Tat based protein vaccines in mice model”. Samira Alipour, **Ativeh Mahdavi***, Asghar Abdoli. *Pathogens and Disease*, 2017, Vol. 75, No. 2.
8. “Formulation of chitosan with the polypeptide HIV-1 protein candidate vaccine efficiently boosts cellular immune responses in mice. Ehsan Ollah Jazaeri, **Ativeh Mahdavi***, Asghar Abdoli”. *Pathogens and Disease*, Volume 75, Issue 8, 30 November 2017.
9. Immunogenicity evaluation of the HIV-1 Tat containing polypeptide DNA vaccine adjuvanted with CpG-ODNs in mice. Ehsan Ollah Jazaeri, **Ativeh Mahdavi***, Asghar Abdoli. *Iran J Basic Med Sci.* 2021 Mar; 24(3): 377–382.
10. Variation in Terpene Profiles of *Thymus vulgaris* in Water Deficit Stress Response, **Ativeh Mahdavi**, Parviz Moradi, and Andrea Mastinu. *Molecules* 2020, 25, 1091.
11. “pH-responsive hybrid magnetic polyelectrolyte complex based on alginate/BSA as efficient nanocarrier for curcumin encapsulation and delivery. Soheil Amani, Zahra Mohamadnia, **Ativeh Mahdavi**. *International Journal of Biological Macromolecules*, 2019-09-11, DOI: 10.1016/j.ijbiomac.2019.09.048.
12. “Self-assembled polyelectrolyte complex nanoparticles as a potential carrier in protein delivery systems Soheil Amani, Zahra Mohamadnia, Ebrahim Ahmadi, **Ativeh Mahdavi**, Mehraneh Kermanian”. *Journal of Drug Delivery Science and Technology* 54 (2019) 101250.
13. “Evaluation of thiazolidinone derivatives as a new class of mushroom tyrosinase inhibitors”. Mehrnaz Rezaei, Hamed Taj Mohammadi, **Ativeh Mahdavi***, Mostafa Shourian and Hossein Ghafoori. *International Journal of Biological Macromolecules*. Int J Biol Macromol. 2017 Nov 24;108:205-213. doi: 10.1016/j.ijbiomac.2017.11.147.
14. “Lipidomics Unravels the Role of Leaf Lipids in Thyme Plant Response to Drought Stress”. Parviz Moradi, **Ativeh Mahdavi***, Maryam Khoshkam and Marcello Iriti. *Int. J. Mol. Sci.* 2017, 18, 2067; doi: 10.3390/ijms18102067.
15. Hyperactive Arg39Lys mutated mnemiopsin: implication of positively charged residue in chromophore binding cavity. **Ativeh Mahdavi**, Reza H. Sajedi, Saman Hosseinkhani and Majid Taghdir. *Photochem. Photobiol. Sci.*, 2015, 14, 792–800.
16. Site-directed mutagenesis of photoprotein mnemiopsin: Implication of some conserved residues in bioluminescence properties. **Ativeh Mahdavi**, Reza H. Sajedi, Saman Hosseinkhani and Majid Taghdir. *Photochemical & Photobiological Science*, 2012, 12, 467-478.
17. Enzymatic desizing of cotton fabric using a Ca²⁺-independent α -amylase with acidic pH profile. Nima Chand, Ali Shams Nateri, Reza H. Sajedi, **Ativeh**

Mahdavi and Mehdi Rassa. *Journal of Molecular Catalysis B: Enzymatic*. **83**, 46-50, 2012. (IF: 2.269, Q3).

18. Identification and partial characterization of midgut proteases in the lesser mulberry pyralid, *Glyphodes pyloalis* Walker. **Atieh Mahdavi**, Mohammad Ghadamyari, Reza Hasan Sajedi, Mahbobeh Sharifi, Behrooz Kouchaki. Accepted in *Journal of Insect Science*, **13**, 1-11, 2012.
19. An analysis of temperature adaptation in cold active, mesophilic and thermophilic *Bacillus* α -amylases. **Ativeh Mahdavi**, Reza H. Sajedi, S. Mohsen Asghari, Majid Taghdir and Mehdi Rassa. *International journal of biological macromolecules*. 2011, **49**, 1038–1045.
20. Characterization of an α -amylase with broad temperature activity from an acid-neutralizing *Bacillus cereus* strain. **Ativeh Mahdavi**, Reza Hassan Sajedi, Mehdi Rassa, Vahab Jafarian. *IRANIAN JOURNAL of BIOTECHNOLOGY*, **8**, 103-111, 2010.
21. "Investigation of acid-neutralizing property of *Bacillus cereus* GUF8". **Ativeh Mahdavi***, Reza H. Sajedi, Mehdi Rassa. *Biomacromolecular Journal (BMMJ)*", 2017.

۲۲. "بررسی ایمنی‌زایی واکسن پلی توپ کاندید HIV مبتنی بر DNA در مدل موشی و تأثیر رویکردهای استفاده از ادجوانت آلوم و تزریق زیر جلدی بر میزان کارایی آن". احسان الله جزایری، **عطیه مهدوی***، اصغر عبدلی. پذیرفته شده در مجله بیوتکنولوژی تربیت مدرس 2017. مقاله ی (written in Persian) ISC

23. Directed improvement of i-Photina bioluminescence properties, an efficient calcium-regulated photoprotein, Fatemeh Ahmadi, Reza Sajedi, **Ativeh Mahdavi**, Mehdi Zeinoddini, Majid Taghdir, *Biomacromolecular Journal*, 2014.
24. "Isolation and purification of plasma protein-A from pregnant women serum at the end of 3rd trimester". S. Hoseini, **A. Mahdavi**, H. Alizadeh. *The Quarterly Journal of Animal Physiology and Development*. **10**, 79-86, 2017.
25. Effect of Intraperitoneal Injection of Quince Seed's Extracts on Biochemical and Hematological Parameters in Mouse. H. Hamzehei, H. Alizadeh, **A. Mahdavi**, N. Javar. *The Quarterly Journal of Animal Physiology and Development*, **26**, 67-73, 2014.

۲۶. مهار تیروزیناز فارچی با نیتروآنیلین ها و مشتقات وانیلینی آنها. معصومه باقری کالمرزی، الهام اسداللهی، رضا حسن ساجدی، عطیه مهدوی، نصرت الله محمودی و رضا حاجی حسینی. مجله علوم و زیست فناوری مولکولی. دوره ۲، شماره ۲، صفحات ۸۳-۶۷، ۱۳۹۰. (written in Persian) (ISC)

N) Question designer for MSc and PhD national entrance exams

Executive committee of IASBS biological symposia:

- 1-Light and biology (2015)
- 2-Cancer cell biology (2016)

3-Protein Folding and Stability (2017)
4-Biophysics week in IASBS (2016 & 2017)

O) Oral and poster presentation in National and International Conferences and workshops:

1. Investigation of immunogenicity of the HIV-1 Tat protein vaccine formulated with Chitosan nanoparticles in mice model. Samira Alipour, **Ativeh Mahdavi***, Asghar Abdoli, The 2nd Iranian Nanomedicine Congress, Zanjan, Iran, 27-29 September 2016.
2. Evaluation of immune adjuvant properties of Chitosan nanoparticles to enhance the immunogenicity of polyepitopic HIV-1 top4 protein candidate vaccine in mice model. Ehsan ollah Jazaeri Jouneghani1, **Ativeh Mahdavi***, Asghar Abdoli, Asghar Abdoli, The 2nd Iranian Nanomedicine Congress, Zanjan, Iran, 27-29 September 2016.

۳. بررسی اثر یون Zn^{2+} بر ساختار پروتئین نوترکیب Tat کاندید واکسن ایدز با استفاده از تکنیک فلورسانس. زهرا فلاحتی، **عطیه مهدوی***، لیلا حسنی. پنجمین کنگره عناصر کمیاب ایران، ۳۰ آذر ماه تا ۲ دی ماه ۱۳۹۵، دانشگاه تربیت مدرس، تهران، ایران. (written in Persian).

4. Bioinformatics Tools and Data Analysis for MS-Based Metabolomics Datasets. Parviz Moradi, **Ativeh Mahdavi**. The 6thConference on Bioinformatics, 13-15 Dec 2016 Institute of Biochemistry and Biophysics (IBB), University of Tehran, Tehran, Iran.
5. Web Resources and Softwares for Metabolite Identification in Mass Spectrometry Based Metabolomics Approach Parviz Moradi, **Ativeh Mahdavi**. The 6thConference on Bioinformatics, 13-15Dec 2016 Institute of Biochemistry and Biophysics (IBB), University of Tehran, Tehran, Iran.
6. Modifications of leaf lipid composition in the responses of thyme plant to drought stress Parviz Moradi, **Ativeh Mahdavi** and Maryam Koshkam. [The 1st International Electronic Conference on Metabolomics- Scilit](#). 1-30 November 2016.
7. Investigation of the structure and stability of the HIV-1 vaccine candidate recombinant Tat protein. Zahra Falahati, **Ativeh Mahdavi***, Leila Hassani. 3rd IASBS Symposium in Biological Sciences, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, November 2-3, 2017 (Abstract will be published in ISC).
8. The investigation of thermal stability of the HIV-1 top4 polyepitopic candidate vaccine and its structural reversibility using spectroscopic methods. Raziieh Mohammadi, **Ativeh Mahdavi***, Leila Hassani. 3rd IASBS Symposium in Biological Sciences, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, November 2-3, 2017 (Abstract will be published in ISC).

۹. بررسی اثر pH بر ساختار و برگشت پذیری ساختاری پروتئین پلی توپ نو ترکیب کاندید واکسن HIV با استفاده از تکنیک فلورسانس. راضیه محمدی، عطیه مهدوی*، لیلا حسنی، چهاردهمین کنگره سراسری بیوشیمی ایران. ۲۸-۲۶ مرداد ۱۳۹۵. تهران. ایران. (written in Persian)

10. Efficiency Evaluation of a Candidate Vaccine Based on HIV-1 Tat DNA in Mice Model. Alipour S, Mahdavi A*, Abdoli A. 13th International Congress of Immunology and Allergy of Iran. Tabriz University of Medical Sciences, 2016, Tabriz, Iran.
11. Immunization Evaluation of HIV-1 polyepitopic DNA candidate vaccine in mice model. Ehsanollah Jazaeri Jouneghani, Ativeh Mahdavi*, Asghar Abdoli, 13th International Congress of Immunology and Allergy of Iran. Tabriz University of Medical Sciences, 2016, Tabriz, Iran.
12. Photoproteins and their Applications. Ativeh Mahdavi*. Light and Biology IASBS Symposia in Biological Sciences. Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, Oct 29-30, 2015.
13. Evaluation of HIV-1 polyepitope protein's immunization in the sera of immunized BALB/c mice using the ELISA method. Ehsanollah Jazaeri Jouneghani, Ativeh Mahdavi*, Asghar Abdoli, Morteza Haji Miragha. Light and Biology IASBS Symposia in Biological Sciences. Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, Oct 29-30, 2015.
14. Investigation of the HIV-1 Tat protein's immunization in the sera of BALB/c vaccinated mice using the ELISA method. Samira Alipour, Ativeh Mahdavi*, Asghar Abdoli, Zeinab Panahi. Light and Biology IASBS Symposia in Biological Sciences. Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran, Oct 29-30, 2015.
15. Cloning and expression optimizing of HIV-Tat recombinant protein in *E. coli* host to use as vaccine candidate in mouse model. Alipour S, Mahdavi A*, Abdoli A. 13th Conference on Biophysical chemistry. 26-27 May 2015, University of Mohaghegh Ardabili Ardabil, Iran.
16. Cloning and expression optimizing of HIV-polyepitope recombinant protein in *E. coli* host to use as vaccine candidate in mouse model. Jazayeri EA, Mahdavi A*, Abdoli A. 13th Conference on Biophysical chemistry. 26-27 May 2015, University of Mohaghegh Ardabili Ardabil, Iran.
17. As lecturer on "protein purification by chromatography methods", *Winter school, held on February 9, 2015, by Hepatitis & AIDS Dept, Pasteur Institute of Iran.*
18. As lecturer on "protein purification by affinity chromatography on Ni-NTA agarose", *Winter school, held on March 8th to 18th, 2014, by Hepatitis & AIDS Dept, Pasteur Institute of Iran.*

19. Purification and characterization of a new α -amylase from an acid-neutralizing bacterium, *Bacillus* sp. GUF8. **Ativeh Mahdavi**, Reza Hassan Sajedi, Mehdi Rassa. *The 9th Iranian Congress of Biochemistry and the 2nd International Congress of Biochemistry and Molecular Biology. Shiraz- Iran, Oct. 29- Nov. 1, 2007.*
20. Cloning, sequencing and theoretical studies of *Bacillus cereus* α -amylase with broad temperature-activity profile. **Ativeh Mahdavi**, Reza Hassan Sajedi, Majid Taghdir. *15th National and 3rd International Conference of Biology, 19-21 August 2008, University of Tehran, Tehran, Iran.*
21. The investigation of thermostability of a moltogenic amylase from *Geobacillus* Sp.Gh6 isolated from a hot spring. Leyla Gholalizadeh, Samira Nasrolahi, **Ativeh Mahdavi**, Reza Hassan Sajedi, Majid Taghdir. *The 16th Iranian and 4th International Conference of Biology, September 14-16, 2010, Ferdowsi University of Mashhad, Iran.*
22. Biochemical characterization of digestive proteases in the lesser mulberry pyralid, *Glyphodes pyloalis* Walker (Lep.: Pyralidae), **Ativeh Mahdavi**, Reza H. Sajedi, Mohammad Ghadamyari, Behrooz Kouchaki. *The 11th Iranian Congress of Biochemistry and Molecular Biology, 8-10 February, 2011, Qazvin, Iran.*
23. Characterization of some biochemical properties of digestive proteases of *Hyphantria cunea* Drury (Lpidoptra; Arctidae). Behrooz Kouchaki, Mohammad Ghadamyari, Jalal Jalali Sendi, Reza H. Sajedi, **Ativeh Mahdavi**. *The 11th Iranian Congress of Biochemistry and Molecular Biology, 8-10 February, 2011, Qazvin, Iran.*
24. Investigation of acid-neutralizing property of a new strain from *Bacillus cereus*. **Ativeh Mahdavi**, Reza H. Sajedi, Mehdi Rassa. *12th Iranian Congress of Biochemistry & 4th International Congress of Biochemistry & Molecular Biology Mashhad, Iran, 6-9 September 2011.*
25. Functional study of Mnemiopsin photoprotein using site directed mutagenesis. Zohreh Jahani, Reza H. Sajedi, **Ativeh Mahdavi**, Saman Hosseinkhani, S. Mohsen Asghari. *12th Iranian Congress of Biochemistry & 4th International Congress of Biochemistry & Molecular Biology Mashhad, Iran, 6-9 September 2011.*
26. Investigation of thermal properties of an α -amylase isolated from an acid-neutralizing *Bacillus cereus* strain & its comparison with *Bacillus* α -amylases. *Research week, Guilan university, 2011.*
27. Workshop, as lecturer in "Methods for identification, isolation and analysis of phytochemical components", *Iranian Biological Resource Center (IBRC), 2010.*
28. Site-directed mutagenesis of mnemiopsin: implication of one of conserved residues in bioluminescence. **Ativeh Mahdavi**, Reza H.Sajedi, Saman

Hosseinkhani. *International Conference on Biophysical Chemistry (ICBC), Ardabil, 2012.*

29. Site-specific mutagenesis of the calcium-binding photoprotein mnemiopsin at position 101, investigation of biochemical and structural properties of mutants. **Ativeh Mahdavi**, Reza H. Sajedi, Saman Hosseinkhani. *The 12th Iranian Genetics Congress, Sh. Beheshti University, Tehran, 2012.*
30. Enzymatic Desizing of cotton fabric using an acidophilic α -amylase. Nima Chand, **Ativeh Mahdavi**, Ali Shams Nateri, Reza H. Sajedi and Mehdi Rassa. 8th National Conference on Textile Engineering (NTEC90). *The University of Yazd. Yazd Iran, 08-10 May, 2012.*
31. Structural studies of mnemiopsin mutants in position 101 using spectroscopic methods, **Ativeh Mahdavi**, Reza H. Sajedi, Saman Hosseinkhani, *17th national & 5th International Conference of Biology of Iran, Sep 04, 2012 - Sep 06, 2012, Kerman, Iran.*
32. Participatedt in the first *Winter school courses, held on March 8th to 18th, 2014, by Hepatitis & AIDS Dept, Pasteur Institute of Iran, in:*
 - Viral genome xtraction
 - Polymerase Chain Reaction (PCR)
 - cDNA synthesis & RT-PCR
 - Enzyme-Linked Immunoabsorbent Assay (ELISA)
 - Gel electrophoresis
 - Primer design introduction to NCBI
 - Real-Time PCR primer and probe design
33. Participatedt in the first *Winter school courses, held on March 8th to 18th, 2014, by Hepatitis & AIDS Dept, Pasteur Institute of Iran, in:*
 - Cell culture
 - Nono drug delivery systems
 - RNAi technology and application
 - Principle, method and application of Flow cytometry

P) THESIS SUPERVISION

Supervisor of 8 M.Sc. students in Department of Biological Sciences, Institute for Advanced Studies in Basic Sciences (IASBS).

Q) ISI & ISC journal reviewer

As a reviewer of articles in **ISI** journals such as “Process Biochemistry”, “Extremophiles”, “Protein & Peptide Letters”, “Archives of Insect Biochemistry & Physiology”, “Viral Immunology”, “International Journal of Environmental Analytical Chemistry” “Iranian Journal of Biotechnology”, etc.

As a reviewer of articles in **ISC** journals such as “The Modares Semiannual Biological Sciences”,

R) Inventions:

Submitted genes in NCBI (www.ncbi.nlm.gov):

Asipenser persicus Hsp90, partial, Accession number: MG672018 (2017)

Acipenser persicus heat shock protein, (Hsp90) mRNA, complete, Accession number: MH898586 (2018).

Bacillus sp. GUF8 16S ribosomal RNA gene. Accession number: EU169574.

Bacillus cereus α -amylase encoding gene. Accession number EU380314

S) Language(s):

English

Farsi

Turkish