

## **CV Mohyeddin Assali, PhD.**

### **Personal Information**

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**Nationality:** Palestinian

**Sex:** Male

**Marital status:** Married

**Contact information:** Pharmacy department, An-Najah National University

P.O. Box 7, Nablus, Palestine

**Email:** [m.d.assali@najah.edu](mailto:m.d.assali@najah.edu), [m.d.assali@hotmail.com](mailto:m.d.assali@hotmail.com).

**Work Tel:** +970-9-2345113 ext 2732

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### **QUALIFICATIONS**

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**2008-2012** PhD. degree with honor "cum laude" in Medicinal chemistry-Nanomedicine.

CSIC-Seville University-Spain

**Supervisors:** Dr. Nouredine Khiar & Prof. Inmaculada Fernández Fernández

**2007-2008** Master degree "Advances studies in chemistry", (molecular chemistry: synthesis and applications) at Seville University-Spain

**Supervisors:** Dr. Nouredine Khiar & Prof. Inmaculada Fernández Fernández

**2006** B.Sc. Pharmacy with honor "my rank was the first of the graduates".

faculty of Pharmacy, An Najah National University, Nablus, Palestine.

### **PROFESSIONAL EXPERIENCES**

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**Jan 2024-present** Head of Head of the Department of Graduate Studies for Medical and Health Sciences

	Faculty of Graduate studies at An-Najah National University-Nablus, Palestine
<b>Oct 2019-present</b>	<b>Associate professor</b>
	Pharmacy department at An-Najah National University-Nablus, Palestine
<b>June 2013- Sep 2019</b>	<b>Assistant professor</b>
	Pharmacy department at An-Najah National University-Nablus, Palestine
<b>Aug 2006-July 2007</b>	<b>Teaching &amp; Research assistant</b>
	Pharmacy department at An-Najah National University-Nablus, Palestine.

## **AWARDS**

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<b>12-2024</b>	<b>Scientific research award 2023- An Najah N. University.</b>
<b>12-2024</b>	<b>Extracted Research from Bsc., MA &amp; PhD Theses Award 2023.</b>
<b>12-2024</b>	<b>Research production award 2023</b>
<b>08-2023</b>	<b>Scientific research award 2022- An Najah N. University.</b>
<b>08-2023</b>	<b>Extracted Research from MA &amp; PhD Theses Award 2022.</b>
<b>08-2023</b>	<b>Extracted Research from Bsc. Theses Award 2022.</b>
<b>08-2023</b>	<b>Research production award 2022</b>
<b>06-2022</b>	<b>Scientific research award 2021- An Najah N. University.</b>
<b>06-2022</b>	<b>Extracted Research from MA &amp; PhD Theses Award 2021.</b>
<b>06-2021</b>	<b>Scientific research award 2020- An Najah N. University.</b>
<b>06-2021</b>	<b>Extracted Research from MA &amp; PhD Theses Award 2020.</b>

08-2020	International research competition for young scientists (silver medal)
06-2020	Scientific research award 2019- An Najah N. University.
06-2020	Extracted Research from MA & PhD Theses Award 2019.
07-2019	Arab American University Award for Excellence in Scientific Research 2019.
06-2019	scientific research award 2018- An Najah N. University.
06-2019	Extracted Research from MA & PhD Theses Award 2018.
06-2018	scientific research award 2017- An Najah N. University
06-2017	scientific research award 2016- An Najah N. University
05-2016	scientific research award 2015- An Najah N. University
04-2015	cicCartuja-Ebro Foods 2014 prize for investigation
03-2015	Progrant research course award.
02-2015	E-learning award - An Najah N. University
06-2014	University of Seville-Bruker prize for investigation
04-2014	cicCartuja-Ebro Foods 2013 prize for investigation
03-2009	Travel grant award to nanospain 2009 conference/Zaragoza, Spain.
2008-2012	<b>Spanish PhD scholarship</b> from MAEC-AECID (Ministerio de Asuntos Exteriores y de Cooperación-Agencia Española de Cooperación Internacional para el Desarrollo).
2007-2008	<b>Spanish master scholarship</b> from Tres Culturas foundation and la junta de andalucia.

## LANGUAGES

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- Arabic: mother language.
- English: Fluent "reading, writing, speaking".
- Spanish: Fluent "reading, writing, speaking".

## PROJECTS

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- ***Fund research projects:***
- **Project title:** Covalent functionalization of SWCNTs for effective targeted cancer therapy  
**Principle investigator:** Dr. Mohyeddin Assali  
**Funded by:** Faculty of scientific research-An Najah N. University  
**Validity:** 01/09/2019-30/09/2020  
**Donation:** 5000 \$  
**Reference:** ANNU-1920-Sc016
- **Project title:** Modification of collagen-based engineered tissue by SWCNT variants  
**Principle investigator:** Dr. Mohyeddin Assali  
**Funded by:** Faculty of scientific research-An Najah N. University/Palestinian Ministry of higher education.  
**Validity:** 01/04/2018-30/09/2019  
**Donation:** 15000 \$  
**Reference:** ANNU-MoHE-1819-Sc010
- **Project title:** Combination Chemotherapy consisting of Combretastatin A4 and Camptothecin for effective anticancer activity.  
**Principle investigator:** Dr. Mohyeddin Assali  
**Funded by:** Faculty of scientific research-An Najah N. University  
**Validity:** 01/09/2017-01/09/2018  
**Donation:** 5000 \$  
**Reference:** ANNU-1718-Sc001
- **Project title:** Multi functionalization of single-walled carbon nanotubes for targeted cancer therapy  
**Principle investigator:** Dr. Mohyeddin Assali  
**Funded by:** Beit Jala Pharmaceutical company  
**Validity:** 01/09/2018-01/09/2021  
**Donation:** 20000 \$
- **Project title:** Synthesis of a novel nano-gene delivery system based on the formation of graphene oxide/( $\beta$ ) cyclodextrin-DNA nanohybrid  
**Principle investigator:** Dr. Mohyeddin Assali

Mohyeddin Assali

**Funded by:** Association of Arab Universities

**Validity:** 01/05/2015-01/05/2017

**Donation:** 5000 \$

- **Project title:** Nano-antibiotics bullet: Highly functionalized carbon nanotubes and their antibacterial activity.

**Principle investigator:** Dr. Mohyeddin Assali

**Funded by:** Ministry of education and high Education-Palestine

**Validity:** 01/12/2013-01/12/2016

**Donation:** 25000 JD

**Reference:** 100/1/2013

## TEACHING EXPERIENCE

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I am teaching the following courses in Bachelor of pharmacy and master in pharmaceutical sciences:

### Bsc. in Pharmacy

Medicinal chemistry I, Medicinal chemistry II, organic chemistry I, organic chemistry II, practical organic chemistry, drug synthesis, practical of instrumental analysis.

### Master in Pharmaceutical sciences

Proposal writing & project design, Advanced medicinal chemistry, Pharmaceutical Nanotechnology, drug delivery systems, Spectroscopy of Structure Elucidation, synthetic medicinal chemistry.

## RESEARCH INTERESTS

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- Pharmaceutical nanotechnology "nanomedicine":
  - Biofunctionalizations and coating of nanomaterials "carbon nanotubes, gold nanoparticles, graphene, and other metal nanoparticles" for biomedical applications in cancer and infectious diseases.
  - Sythesis of supramolecular compounds such as liposomes, lipid nanotubes and nanogels and their applications in biology and medicine.
  - Characterization of nanomaterials by adequate techniques such as TEM, SEM, AFM, TGA, RAMAN, UV-VIS, FTIR, SAXS, .....
- Organic and medicinal chemistry
  - Organic synthesis of biological molecules especially carbohydrate chemistry for their applications in viral and bacterial therapies.
  - Analyzing bioorganic compounds by HPLC, NMR, column chromatography, mass spectroscopy, FTIR, elemental analysis.

## RESEARCH & TECHNICAL SKILLS

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### ➤ Technical skills:

- Nuclear magnetic resonance "NMR, <sup>1</sup>H, <sup>13</sup>C, COSY, HMQC, DOSY".
- High pressurized liquid chromatography "HPLC".
- Fourier transform infrared spectroscopy "FTIR".
- UV-Vis spectroscopy.
- RAMAN spectroscopy.
- Thermo-gravimetric analysis "TGA".
- Transmission electron microscopy "TEM".
- Scanning electron microscopy "SEM".
- Atomic force microscopy "AFM".
- Dynamic light scattering "DLS" and zeta potential analyzer
- Differential scanning calorimetry "DSC".
- Flash chromatography.

### ➤ Computer skills

- Microsoft office "word, powerpoint, excel"
- Autodock
- Drug visualization programs
- Docking programs
- Chemdraw
- Adobe programs
- Origin, Endnote
- WSxM 5.0 for managing AFM images
- topspin for managing NMR spectra
- Scopus
- Scifinder

### ➤ Personal characters

- Dynamic and independent person
- High capacity for leadership
- High communication skills.
- Highly motivated for research
- High work & planning capacity
- Good team worker
- high capability for adaptation

## THESIS SUPERVISION

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1. Farah Abdallah, BSc. Pharmacy. graduated 2015)

**Title of MSc. Thesis:** Nano-antibiotics bullet: Highly functionalized carbon nanotubes and their antibacterial activity.

2. Majd Bani-Odeh, BSc. Pharmacy (graduated 2015)

**Title of MSc. Thesis:** Drug-loaded polymer nanoparticles: synthesis and their biopharmaceutical applications

3. Deema Fahim Hamad, BSc. Pharmacy (graduated 2017)

**Title of MSc. Thesis:** Bio-functionalization of SWCNTs with combretastatin A4 for targeted cancer therapy

4. Tala Sarhan, Bsc. Pharmacy (graduated 2017)

**Title of MSc. Thesis:** Synthesis, Formulation and Method Validation of Rutin Prodrugs.

5. Abeer Faruk Naser, Bsc. Pharmacy (graduated 2018)

**Title of MSc. Thesis:** Formulation and stability evaluation of Ciprofloxacin topical preparations

6. Deema Ghaleb Alsuqi, Bsc. Pharmacy (graduated 2017)

**Title of MSc. Thesis:** Dual functionalization of graphene sheets and their antibacterial activity

7. Safa Omari, Bsc. Pharmacy (graduated 2018)

**Title of MSc. Thesis:** Functionalization of graphene sheets for the development of gene delivery system

8. Safa` Raed Dayyeh, Bsc. Pharmacy (graduated 2018)

**Title of MSc. Thesis:** Dual functionalization of single-walled carbon nanotubes for targeted cancer therapy

9. Kholoud Abu-alrob (graduated 2018)

**Title of MSc. Thesis:** Functionalization of SWCNTs with ciprofloxacin for antibacterial activity

10. Noura Ghazal (graduated 2019)

**Title of MSc. Thesis:** Multifunctional SWCNTs-based co delivery of silencing gene and Doxorubicin for synergistic anticancer activity

11. Hadeel Sawaftah (graduated 2019)

**Title of MSc. Thesis:** Selective Cyclooxygenase 2 inhibitors: synthesis and biological evaluation

12. Sahar Alhaj Qasem (graduated 2020)

**Title of MSc. Thesis:** Noncovalent functionalization of single walled carbon nanotubes as a scaffold for tissue engineering

13. Abeer Yousef Mahmoud (graduated 2021)

**Title of MSc. Thesis:** Synthesis of rutin derivatives for topical formulation and development of validated analytical method.

14. Lana Maqboul (graduated 2021)

**Title of MSc. Thesis:** Preparation of various self-assembled nanoparticles loaded with d-limonene and doxorubicin for effective anticancer activity

15. Nihal Zohud (graduated 2020)

**Title of MSc. Thesis:** Preparation of multi component nanoparticles for effective anti-inflammatory therapy

16. Ansam Sous (graduated 2023)

**Title of MSc. Thesis:** Synthesis of Doxorubicin-Taurocholic acid conjugates for targeted liver cancer therapy

17. Sarah Zeer (graduated 2023)

**Title of MSc. Thesis:** Synthesis of isoxazole and triazole derivatives as indoleamine 2,3-dioxygenase 1 inhibitors

18. Salsabeel Odeh (graduated 2023)

**Title of MSc. Thesis:** Development of an optimized scaffold for tissue engineering based on the non-covalent functionalization of carbon nanomaterials

19. Rawan Saymeh (graduated 2023)

**Title of MSc. Thesis:** A analytical Method development and validation of selegiline through Chemical derivatization based on click reaction

20. Rama Hindawi (graduated 2023)

**Title of MSc. Thesis:** Development of Non-Covalently Functionalized Multiwalled Carbon nanotubes based-substrate for supporting in vitro Neuronal Growth

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21. Kayan Bransi (graduated 2023)

**Title of MSc. Thesis:** Chemical derivatization of Zidovudine based on click reaction for Novel analytical method development

22. Amal Al-Qato (graduated 2023)

**Title of MSc. Thesis:** Generation of engineered dermal tissues enriched with chitosan - multiwall carbon nanotube complex for utilization in wound healing.

23. Samah Qassim (2 supervisors)

**Title of MSc. Thesis:** Synthesis of Carbon Nano Dots from Various Types of Sugars for Biomedical Applications

24. Zainab Meenawi (graduated 2023)

**Title of MSc. Thesis:** Synthesis of glycosylated bile acids derivatives as potent antibacterial agents

25. Ahmad Ghareeb (graduated 2023)

**Title of MSc. Thesis:** Down-regulation of beta-catenin in cancer cells by siRNA complexed with carbon nanotube

26. Saber Abu-Jabal (graduate 2024)

**Title of PhD. Thesis:** Biobased Imidazole Derivatives with Versatile Bioactivities

27. Alaa Ratrout

**Title of MSc. Thesis:** The development of essential oil nanoemulsion loaded with silver nanoparticles as an effective antimicrobial agent.

28. Mustafa Idais

**Title of MSc. Thesis:** Designing a polymeric composite scaffold for tissue engineering and investigating its therapeutic potential

29. Alhan Sharif

**Title of MSc. Thesis:** Hydrocortisone-Cetirizine self-microemulsifying drug delivery system for antiallergic therapy

30. Ihsan Mazarib

**Title of MSc. Thesis:** Design and Investigation of Novel Rivastigmine Nasal Nanocarriers for Improved Treatment of Dementia and Alzheimer's Disease

31. Osama Hammoudi

**Title of MSc. Thesis:** Down-Regulation of Beta-Catenin in Liver Cancer Cells by Short Interfering RNA Complexed with Carbon Nano-Dots Functionalized with Galactose

32. Ronza Al Massaeid

**Title of MSc. Thesis:** Synthesis and Functionalization of Carbon Nanodots for Targeted Photothermal Therapy of Liver Cancer Cells

33. Zeina Jaber

**Title of MSc. Thesis:** Design and Investigation of Micro and Nano Particulate Based Formulations for Cosmeceutical Applications

## **THESIS EXAMINATION**

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I have examined different PhD and Msc. Graduated student's theses.

## **OTHER PROFESSIONAL EXPERIENCES**

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- Participation of Progrant course in Amman-Jordan 2015. Funded by DAAD in collaboration with Koln University and Prowiss.

- Member of various committees at department level and University level (such as master program of pharmaceutical sciences, globalization of An Najah University journals, and much others)
- Membership of Real Sociedad Española de Química since 2011.
- Membership of Pharmaceutical Association in Palestine since 2006.
- I attended an informative course about scopus titled: Scopus-Jornadas Parques Científicos (Sevilla)-El descubrimiento y la difusión de la investigación.
- I was one of the organizers of first Poison Prevention Week for the first time in Palestine in March of 2006.

## SCIENTIFIC BOOKS

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1. Mohyeddin Assali " Biocompatible Graphene: from Synthesis to Biomedical Applications" invited chapter in the book: Innovations in Nanomaterials, Editor: Al-Nakib Chowdhury, Joe Shapter, and Abu Bin Imran. Nova Science Publishers, Inc., NY, (2015). ISBN 978-1-63483-572-5

## PUBLICATIONS

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1. Shadi Sawalha,\* **Mohyeddin Assali,\*** Waleed Farhoud, Reem Abu-Shqair, Rinad Hamed, and Aseel Qadi. Enhanced Photocatalytic Activity of One-Pot Microwave-Synthesized ZnO/CND Hybrid for Sustainable Environmental Remediation. *Part. Part. Syst. Charact.* **2025**, 2400216.
2. Hiba Natsheh, Ahmad M. Eid, Naim Kittana, **Mohyeddin Assali**, Abdallatif Mayyala, Sama Naser, Aya Jawabreh, Roya Mardawi, Maisam Metani. Transethosomal System for Enhanced Dermal Delivery of Clindamycin. *BioNanoScience*, **2025**, 15, 224.
3. Hiba Natsheh, Mohammad Qneibi, Naim Kittana, Nidal Jaradat, **Mohyeddin Assali**, Bahaa Shaqour, Murad Abualhasan, Abdallatif Mayyala, Yaqeen Dawoud, Tala Melhem, Sawsan Abd Alhadi, Osama Hammoudi, Abdullah Samaro, Ahmed Mousa, Sosana Bdir, Mohammad Bdair. Transethosomal system for enhanced transdermal delivery and therapeutic effect of caryophyllene oxide. *International Journal of Pharmaceutics*, **2025**, 670, 125111.
4. Shahd Salameh, Sondos Soboh, Abeer Bsharat, Raed Maali, **Mohyeddin Assali**, Maen Ishtaiwi, Muna Hajjyahya, Abdulraziq Zarour, Shadi Sawalha. Preparation of Silver Nanoparticles/Polyvinyl alcohol Nanocomposite Films with Enhanced Electrical, Thermal, and Antimicrobial Properties. *An-Najah University Journal for Research-A (Natural Sciences)*, **2025**, accepted.

5. **Mohyeddin Assali**,\* Anhar Mlitat, Abrar Yacoub, Anagheem Hasson & Ahmed Mousa. Green Synthesis of Silver Nanoparticles Loaded with Doxorubicin in Polylactide Nanoparticles for Effective Cancer Therapy. *Journal of Cluster Science*, **2024**, 35, 2813–2821.
6. Ibrahim M. Nassar, Heba Nassar, **Mohyeddin Assali**, Muath H. S. Helal, Hyobin Han, Tae Woo Kim, Mazen Salman, Hikmat S. Hilal. Electro-Mineralization of Aqueous Phenazopyridine Using Platinum Nanoparticles Deposited onto Multiwalled Carbon Nanotubes. *Processes*, **2024**, 12, 1625. (28 pages)
7. Ibrahim Khoswan, Heba Nassar, **Mohyeddin Assali**, Abdelrahim AbuSafa, Shadi Sawalha and Hikmat S. Hilal. Why Carbon Nanotubes Improve Aqueous Nanofluid Thermal Conductivity: A Qualitative Model Critical Review. *Processes*, **2024**, 12, 834. (26 pages)
8. Shadi Sawalha\*, **Mohyeddin Assali**\*, Amal Yaseen, Aya Ataya, Leena Refai, Rinad Hamed, Giuseppe Misia, Silvia Collavini, and Alessandro Silvestri. Carbon Nanodots Synthesized from Used Tobacco Molasses as Promising Selective Probes for Fe (III) Ion Sensing. *Materials Today Sustainability*, **2024**, 25, 100697.
9. Ahmed Ghallab, Daniela González, Ellen Strängberg, Ute Hofmann, Maiju Myllys, Reham Hassan, Zaynab Hobloss, Lisa Brackhagen, Brigitte Begher-Tibbe, Julia C. Duda, Carolin Drenda, Franziska Kappenberg, Joerg Reinders, Adrian Friebel, Mihael Vucur, Monika Turajski, Abdel-latif Seddek, Tahany Abbas, Noha Abdelmageed, Samy A.F. Morad, Walaa Morad, Amira Hamdy, Wiebke Albrecht, Naim Kittana , **Mohyeddin Assali**, Nachiket Vartak, Christoph van Thriel, Ansam Sous, Patrick Nell, Maria Villar-Fernandez, Cristina Cadenas, Erhan Genc, Rosemarie Marchan, Tom Luedde, Peter Åkerblad, Jan Mattsson, Hanns-Ulrich Marschall, Stefan Hoehme, Guido Stirnimann, Matthias Schwab, Peter Boor, Kerstin Amann, Jessica Schmitz, Jan H. Bräsen, Jörg Rahnenführer, Karolina Edlund, Saul J. Karpen, Benedikt Simbrunner, Thomas Reiberger, Mattias Mandorfer, Michael Trauner, Paul A. Dawson, Erik Lindström, Jan G. Hengstler. Inhibition of the renal apical sodium dependent bile acid transporter prevents cholemic nephropathy in mice with obstructive cholestasis. *Journal of Hepatology*, **2024**, 80, 268-281.
10. Isra Ishraydeh, Othman Hamed, Abdalhadi Deghles, Shehdeh Jodeh, Khalil Azzaoui, Abdelfattah Hasan, **Mohyeddin Assali**, Ataa Jaseer, Waseem Mansour, Gul Gulenay Haciosmanoğlu, Zehra Semra Can and Manuel Algarra. Olive industry liquid waste from trash to metal adsorbent for wastewater purification. *BMC Chemistry*, **2024**, 18, article number 4.
11. Saber Abu-Jabal, Ahmad Ghareeb, Derar Smadi, Othman Hamed,\* **Mohyeddin Assali**,\* AvniBerisha, Nael Abutaha, Waseem Mansour, Ameer Omairah, Alaa Janem, Ataa Jaser. New Zwitterionic Imidazolones with Enhanced Water

Solubility and Bioavailability: Synthesis, Anticancer Activity, and Molecular Docking. *Chemistry*, **2023**, *5*, 2613-2629.

12. Shadi Sawalha,\* Samer Abdallah, Amal Barham, Hala Badawi, Zeina Barham, Ahmad Ghareeb, Giuseppe Misia, Silvia Collavini, Alessandro Silvestri, Maurizio Prato and **Mohyeddin Assali\***. Green Synthesis of Fluorescent Carbon Nanodots from Sage Leaves for Selective Anticancer Activity on 2D Liver Cancer Cells and 3D Multicellular Tumor Spheroids. *Nanoscale Advances*, **2023**, *5*, 5974-5982.
13. Shadi Sawalha,\* Rinad Hamed, **Mohyeddin Assali**. Parameters affecting Mehtylene Blue Dye Photodegradation by Carbon dots Prepared from Olive Pomeace. *ChemistrySelect*, **2023**, *8*, e202300522.
14. Rinad Hamed, **Shadi Sawalha,\* Mohyeddin Assali,\*** Reem Abu Shqair, Aseel Al-Qadi, Aziza Hussein, Raed Alkowni, Shehdeh Jodeh. Visible light-driven ZnO nanoparticles/carbon nanodots hybrid for broad-spectrum antimicrobial activity. *Surfaces and Interfaces*, **2023**, *38*, 102760.
15. **Mohyeddin Assali,\*** Naim Kittana,\* Ismail Badran, Safa Omari. Covalent functionalization of graphene sheets for plasmid DNA delivery: experimental and theoretical study. *RSC Advances*, **2023**, *13*, 7000-7008.
16. Angham Salahat, Othman Hamed, Abdalhadi Deghles, Khalil Azzaoui, Hisham Qrareya, **Mohyeddin Assali**, Waseem Mansour, Shehdeh Jodeh, Gül Gülenay Haciosmanoglu, Zehra Semra Can, Belkheir Hammouti, Asep Bayu Dani Nandiyanto, Alicia Ayerdi-Gotor and Larbi Rhazi. Olive Industry Solid Waste-Based Biosorbent: Synthesis and Application in Wastewater Purification. *Polymers*, **2023**, *15*(4), 797.
17. **Mohyeddin Assali,\*** Nidal Jaradat, Lana Maqboul. The formation of self-assembled nanoparticles loaded with Doxorubicin and D-Limonene for cancer therapy. *ACS Omega*, **2022**, *7*, 42096–42104.
18. Shadi Sawalha,\* **Mohyeddin Assali,\*** Muna Raddad, Tasneem Ghneem, Tasneem Sawalhi, Motasem Almasri, Abdulraziq Zarour, Giuseppe Misia, Maurizio Prato, Alessandro Silvestri. Broad-Spectrum Antibacterial Activity of Synthesized Carbon Nanodots from d-Glucose. *ACS Applied Bio Materials*, **2022**, *5*, 4860–4872.
19. **Mohyeddin Assali,\*** Naim Kittana,\* Sahar Alhaj-Qasem, Muna Hajjyahya, Hanood Abu-Rass, Walhan Alshaer, Rula Al-Buqain. Noncovalent Functionalization of Carbon Nanotubes as a Scaffold for Tissue Engineering. *Scientific Reports*, **2022**, *12*, 1-17.
20. Shadi Sawalha, **Mohyeddin Assali**, Ameerah Nasasrah, Maha Salman, Majd Nasasrah, Madleen Jitan, Hikmat S. Hilal and Ahed Zyuod. Optical properties and photoactivity of carbon nanodots synthesized from olive solid wastes at different carbonization temperatures. *RSC advances*, **2022**, *12*, 4490-4500.

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21. **Mohyeddin Assali**, Abdel-Naser Zaid. Features, applications, and sustainability of lipid nanoparticles in cosmeceuticals. *Saudi Pharmaceutical Journal*, **2022**, *30*, 53-65.
22. Murad Abualhasan, **Mohyeddin Assali**, Abeer Mahmoud, Abdel Naser Zaid and Numan Malkieh. Synthesis of Rutin Derivatives to Enhance Lipid Solubility and Development of Topical Formulation with a Validated Analytical Method. *Current Drug delivery*, **2022**, volume 19, issue 1, 117-128.
23. **Mohyeddin Assali**,\* Ramzi Shawahna, Raeda Alhawareen, Haifa Najajreh, Oraib Rabaya, Maryam Faroun, Ahed Zyoud and Hikmat Hilal. Self-assembly of diclofenac prodrug into nanomicelles for enhancing the anti-inflammatory activity. *RSC advances*, **2021**, *11*, 22433-22438.
24. **Mohyeddin Assali**,\* Naim Kittana, Safa' Dayyeh and Nouredine Khiar. Dual covalent functionalization of single walled carbon nanotubes for effective targeted cancer therapy. *Nanotechnology*, **2021**, *32*, 205101 (11 pages).
25. Naim Kittana, **Mohyeddin Assali**, Wolfram-Hubertus Zimmermann, Norman Liaw, Gabriela Leao Santos, Abdul Rehman, Susanne Lutz. Modulating the Biomechanical Properties of Engineered Connective Tissues by Chitosan-Coated Multiwall Carbon Nanotubes. *International Journal of Nanomedicine*. **2021**, *16*, 989–1000.
26. **Mohyeddin Assali**,\* Nihal Zohud. Design of multicomponent indomethacin-paracetamol and famotidine loaded nanoparticles for sustained and effective anti-inflammatory therapy. *Drug Development Research*, **2021**, *82*, 448-457.
27. **Mohyeddin Assali**,\* Murad Abualhasan, Nihal Zohud, and Noura Ghazal. RP-HPLC method development and validation of synthesized co-drug in combination with Indomethacin, Paracetamol, and Famotidine. *International Journal of Analytical Chemistry*, **2020**, vol. 2020, Article ID 1894907, 9 pages.
28. **Mohyeddin Assali**,\* Murad Abualhasan, Hadeel Sawaftah, Mohammed Hawash, and Ahmed Mousa. Synthesis, Biological Activity, and Molecular Modeling Studies of Pyrazole and Triazole Derivatives as Selective COX-2 Inhibitors. *Journal of Chemistry*, 2020, vol. 2020, Article ID 6393428, 14 pages.
29. **Mohyeddin Assali**,\* Motasem Almasri, Naim Kittana, Deema Alsouqi. Covalent Functionalization of Graphene Sheets with Different Moieties and Their Effects on Biological Activities. *ACS Biomaterials Science & Engineering*, 2020, *6*, 112-121.
30. Abdel Naser Zaid, Muna Hassan, Nidal Jaradat, **Mohyeddin Assali**, Reem Al Abbassi, Alaaldin Alkilany, Samer R Abulateefeh. Formulation and

characterization of combretastatin A4 loaded PLGA nanoparticles. *Materials Research Express*, **2019**, *6*, 1250d7.

31. Khiar N, Romero-Ben E, Cid JJ, **Assali M**, Fernández-García E, Wellinger RE. Surface modulation of single-walled carbon nanotubes for selective bacterial cell agglutination. *International Journal of Nanomedicine*, **2019**, *14*, 3245–3263.
32. Murad Abualhasan, **Mohyeddin Assali**, Nidal Jaradat, Tala Sarhan. Synthesis, Formulation and Analytical Method Validation of Rutin Derivative. *Letters in Drug Design & Discovery*, **2019**, *16*, 685 - 695.
33. **Mohyeddin Assali**,\* Naim Kittana, Sahar Alhaj Qasem, Raghad Adas, Doaa Saleh, Asala Arar, Osayd Zohud. Combretastatin A4-camptothecin micelles as combination therapy for effective anticancer activity. *RSC advances*, **2019**, *9*, 1055 - 1061.
34. \*Naim Kittana, **Mohyeddin Assali**, Hanood Abu-Rass, Susanne Lutz, Rama Hindawi, Lina Ghannam, Marah Zakarneh, Ahmed Mosa. Enhancement of wound healing by single-wall/multi-wall carbon nanotubes complexed with chitosan. *International Journal of Nanomedicine*, **2018**, *13*, 7195—7206.
35. **Mohyeddin Assali**,\* Ramzi Shawahna, Safa' Dayyeh, Mays Shareef, Imad-Aldin Alhimony. Dexamethasone-diclofenac loaded polylactide nanoparticles: Preparation, release and anti-inflammatory activity. *European Journal of Pharmaceutical Sciences*, **2018**, *122*, 179–184.
36. **Mohyeddin Assali**,\* Abdel Naser Zaid, Naim Kittana, Deema Hamad and Johnny Amer. Covalent functionalization of SWCNT with combretastatin A4 for cancer therapy. *Nanotechnology*, **2018**, *29*, 245101.
37. **Mohyeddin Assali**,\* Ali Shakaa, Sabaa Abu-Hejleh, Reham Abu-Omar, Nareman Karajeh, Nawal Ajory, Saed Zyoud and Waleed Sweileh. A cross-sectional study of the availability and pharmacist's knowledge of nano-pharmaceutical drugs in Palestinian hospitals. *BMC Health Services Research*, **2018**, *18*, 250.
38. Nidal Jaradat, Lina Adwan, Shadi K'aibni, Abdel Naser Zaid, Munqez J. Y. Shtaya, Naser Shraim, and **Mohyeddin Assali**. Variability of Chemical Compositions and Antimicrobial and Antioxidant Activities of Ruta chalepensis Leaf Essential Oils from Three Palestinian Regions. *BioMed Research International*, **2017**, *2017*, 9 pages.
39. **Mohyeddin Assali**,\* Abdel Naser Zaid, Farah Abdallah, Motasem Almasri, Rasha Khayyat. Single-walled carbon nanotubes-ciprofloxacin nanoantibiotic: strategy to improve ciprofloxacin antibacterial activity. *International Journal of Nanomedicine*, **2017**, *12*, 6647–6659.

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40. **Mohyeddin Assali**,\* Abdel Naser Zaid, Majd Bani-Odeh, Maryam Faroun, Riham Muzaffar, and Hassan Sawalha. Preparation and Characterization of Carvedilol-Loaded Poly(D,L) Lactide Nanoparticles/Microparticles as a Sustained Release System. *Int J Polym Mater*, **2017**, 16, 717-725.
41. Abdel Naser Zaid, **Mohyeddin Assali**, Samah Zalmout, Aseel Basheer. Compounding and stability evaluation of atorvastatin extemporaneous oral suspension using tablets or pure powder. *Eur J Hosp Pharm*, **2017**, 24, 157-161.
42. **Mohyeddin Assali**,\* Ameera Mousa, Saja Thiab, Maha Al-ott, Adham Abu Taha, Maryam Faroun, Pablo Romero Gomez. Non-Covalent Functionalization of Graphene Sheets with Surfactants and their Antibacterial Activity. *Palestinian Medical and Pharmaceutical Journal*, **2016**, 1, 65-72.
43. **Mohyeddin Assali**\*, Maysa Joulani, Raghad Awwad, Muath Assad, Motasem Almasri, Naim Kittana and Abdel Naser Zaid. Facile Synthesis of Ciprofloxacin Prodrug Analogues to Improve its Water Solubility and Antibacterial Activity. *ChemistrySelect*, **2016**, 1, 1132-1135.
44. Juan Jose Cid Martín, **Mohyeddin Assali**, Elisabet Fernández-García, Victoria Valdivia, Elena Sánchez-Fernández, Jose Manuel Garcia Fernández, Ralf Welinger, Inmaculada Fernández and Nouredine Khier. Tuning Glyconanomaterial Shape and Size for Selective Bacterial Cell Agglutination. *Journal of Material Chemistry B*, **2016**, 4, 2028-2037.
45. Manuel Pernía Leal, **Mohyeddin Assali**, Juan Jose Cid, Victoria Valdivia, Jaime Franco, Inmaculada Fernández, David Pozo and Nouredine Khier. Synthesis of 1D-glyconanomaterials by a hybrid noncovalent-covalent functionalization of single wall carbon nanotubes: a study of their selective interactions with lectins and with live cells. *Nanoscale*, **2015**, 7, 19259-19272.
46. Murad Abualhasan, Mashhour M. Ghanem, **Mohyeddin Assali**, and Abdel Naser Zaid. The effect of non-compliance of PPI instruction on the stability of reconstituted oral antibiotics. *Journal of Applied Pharmaceutical Science*, **2015**, 5, 143-146.
47. Jaradat Nidal, Eid Ahmad M, **Assali Mohyeddin**, Zaid Abdel Naser. Variations of Exhaustive Extraction Yields and Methods of Preparations for (Arum palaestinum) Solomon's Lily Plant in all Regions of West Bank/Palestine. *International Journal of Pharmacognosy and Phytochemical Research*, **2015**, 7, 356-360.
48. Murad Abualhasan, **Mohyeddin Assali**, Nidal Jaradat, Rana Tarayra, Aseel Hamdan, Rula Ardah and Abdel Nasr Zaid. Synthesis and Formulation of



Ibuprofen Pro-Drugs for enhanced Transdermal Absorption. *International Journal of Pharmacy and Pharmaceutical Sciences*, **2015**, 7, 352-354.

49. **Mohyeddin Assali**, Murad Abualhasan, Nidal Jaradat, Rana Tarayra, Aseel Hamdan, Rula Ardah, Abdel Nasr Zaid. Synthesis of Naproxen Pro-Drugs for enhanced Transdermal Absorption. *Journal of chemical and pharmaceutical research*, **2014**, 6, 1-4.
50. Abdel Naser Zaid, **Mohyeddin Assali**, Aiman Qaddomi, Mashhour Ghanem, Yara Abu Zaaror. Preparation and Stability Evaluation of Extemporaneous Oral Suspension of Valsartan Using Commercially Available Tablets. *International journal of pharmaceutical compounding*, **2014**, 18, 169-174.
51. **Mohyeddin Assali**, Juan-José Cid, Inmaculada Fernández and Nouredine Khier. Supramolecular Diversity through Click Ligation: Switching from Self-Assembled Spherical Nanomicelles to 1D-Tubular Nanostructures and Tridimensional Gels. *Chemistry of Materials*, **2013**, 25, 4250. (Highlighted as the article of the month of May 2014 of ciccartuja, gained the 3<sup>rd</sup> position of cicCartuja-Ebro Foods prize as the best article for 2014)
52. **Mohyeddin Assali**, Juan-José Cid, Manuel Pernía leal, Miguel Muñoz-Bravo, Inmaculada Fernández, Ralf E. Wellinger, Nouredine Khier. Glyconanosomes: Disc-shaped Nanomaterials for the Water Solubilization and Controlled Delivery of Hydrophobic Molecules. *Acs nano*, **2013**, 7, 2145. (Highlighted as the article of the month of May 2013 of ciccartuja, gained the 3<sup>rd</sup> position of cicCartuja-Ebro Foods prize as the best article for 2013)
53. **Mohyeddin Assali**, Manuel Pernía-Leal, Inmaculada Fernández and Nouredine Khier. Synthesis and non-covalent functionalization of carbon nanotubes rings: new nanomaterials with lectin affinity. *Nanotechnology*, **2013**, 24, 085604.
54. Manuel Pernia Leal, **Mohyeddin Assali**, Inmaculada Fernandez, and Nouredine Khier. Copper-Catalyzed Azide-Alkyne Cycloaddition in the Synthesis of Polydiacetylene: "Click Glycoliposome" as Biosensors for the Specific Detection of Lectins. *Chemistry- a European journal*, **2011**, 17, 1828. (Highlighted as the article of the month of March 2011 of ciccartuja)
55. **Mohyeddin Assali**, Manuel Pernía Leal, Inmaculada Fernández, Pablo Romero-Gomez, Rachid Baati, and Nouredine Khier. Improved Non-Covalent Biofunctionalization of MWCNTs using Carbohydrates Amphiphiles with a Butterfly-like Polyaromatic Tail, *Nano research*, **2010**, 3, 764. (Highlighted as the article of the month of December 2010 of Ciccartuja)
56. **Assali, M.**; Pernía Leal, M.; Fernández, I.; Baati, R.; Mioskowski, C.; Khier, N. Non-covalent functionalization of carbon nanotubes with glycolipids: Glyconanomaterials with specific lectin-affinity. *Soft Matter* **2009**, 5, 948.

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## Conferences

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1. **Authors: Mohyeddin Assali**  
**Title:** Novel Engineered Multi-walled carbon nanotubes for selective delivery of siRNA to the colorectal cancer cells  
**Congress:** Al-Zaytoonah University of Jordan International Pharmaceutical Conference 2024  
**Date:** 16-17 October 2024  
**Type:** Oral presentation  
**Place:** Amman, Jordan
  
2. **Authors: Mohyeddin Assali**  
**Title:** Dual Functionalization of Multi-Walled Carbon Nanotubes for Selective Delivery of siRNA to The Cancer Cells  
**Congress:** International Conference on General Health Sciences  
**Date:** 02-05 May 2024  
**Type:** Oral presentation  
**Place:** Alanya, Turkey
  
3. **Authors: Mohyeddin Assali**  
**Title:** Active Targeting of Liver Cancer by Dual Functionalization of Single-Walled Carbon Nanotubes  
**Congress:** 10<sup>th</sup> International Drug Chemistry Conference  
**Date:** 10-13 March 2022  
**Type:** Oral presentation  
**Place:** Antalya, Turkey
  
4. **Author: Mohyeddin Assali**  
**Title:** Learning with passion and enjoyment: A Palestinian Story of Innovation  
**Congress:** International Research Competition for Young Scientists 2020  
**Date:** 29-31 August 2020  
**Type:** Oral presentation (keynote speaker)  
**Place:** Bandung, West Java, Indonesia (online)
  
5. **Authors: Mohyeddin Assali**  
**Title:** Functional Nanomaterials for targeted cancer therapy.  
**Congress:** International Conference on Advanced Nanotechnology and Nanomaterials  
**Date:** 20-21 November 2019  
**Type:** Oral presentation  
**Place:** Dubai, UAE

6. **Authors:** Mohyeddin Assali, Motasem Almasri, Naim Kittana, and Deema Alsouqi  
**Title:** Antibacterial activity of covalently functionalized graphene sheets.  
**Congress:** 6th International Conference on Multifunctional, Hybrid and Nanomaterials  
**Date:** 11-15 March 2019  
**Type:** Poster  
**Place:** Sitges, Spain
7. **Authors:** Mohyeddin Assali, Abdel Naser Zaid, Farah Abdallah, Motasem Almasri, Rasha Khayyat  
**Title:** Covalent Functionalization of Single-Walled Carbon Nanotubes with Ciprofloxacin to Improve Its Antibacterial Activity  
**Congress:** 1st International Eurasian Conference on Biological and Chemical Sciences (EurasianBioChem 2018)  
**Date:** 26-27 April 2018  
**Type:** Oral presentation  
**Place:** Ankara, Turkey
8. **Authors:** Tala Sarhan, Murad Abualhasan, and Mohyeddin Assali  
**Title:** Synthesis, Formulation and Analytical Method Validation of Rutin Prodrugs  
**Congress:** second Palestinian International Graduate Conference on Natural, Medical and Health Sciences and Humanities  
**Date:** 20 April 2017  
**Type:** Oral presentation  
**Place:** Nablus, Palestine
9. **Authors:** Deema Hamad, Mohyeddin Assali, Abdel Naser Zaid, Naim Kittana, Johnny Amer  
**Title:** Covalent functionalization of SWCNTs with Combretastatin A4 improved anticancer activity  
**Congress:** second Palestinian International Graduate Conference on Natural, Medical and Health Sciences and Humanities  
**Date:** 20 April 2017  
**Type:** Oral presentation  
**Place:** Nablus, Palestine
10. **Authors:** Mohyeddin Assali  
**Title:** Nano-Medicine and Cancer therapy: a General Overview  
**Congress:** 8th Palestinian Pharmaceutical Conference  
**Date:** 03-05 May 2016  
**Type:** Oral presentation  
**Place:** Ramallah, Palestine

11. **Authors:** Mohyeddin Assali  
**Title:** Application of Nanotechnology in Cancer Therapy: A General Overview  
**Congress:** Second Palestinian International Conference on Materials Science and Nanotechnology  
**Date:** 23-24 March 2016  
**Type:** Oral presentation  
**Place:** Nablus, Palestine
12. **Authors:** Mohyeddin Assali, Farah Abdallah, Rasha Khayyat, Abdel Naser Zaid  
**Title:** Covalent Functionalization of SWCNTs with Ciprofloxacin for Enhancing its Antibacterial Activity  
**Congress:** Nanotech France 2015  
**Date:** 15-17 June 2015  
**Type:** Oral presentation  
**Place:** Paris, France
13. **Authors:** Mohyeddin Assali.  
**Title:** Sweet Nanomaterials: synthesis and biomedical applications  
**Congress:** 4th Biomedical Research Symposium (organized by Palestinian Forum for Medical Research)  
**Date:** 26 April 2014  
**Type:** Oral presentation  
**Place:** Nablus, Palestine
14. **Authors:** Mohyeddin Assali.  
**Title:** Biofunctionalization of carbon nanotubes for biomedical and pharmaceutical applications  
**Congress:** The 15th Scientific Congress of the Jordanian Pharmacists Association  
**Date:** 03-05 April 2014  
**Type:** Oral presentation  
**Place:** Amman, Jordan
15. **Authors:** Juan-José Cid, Mohyeddin Assali, Manuel Pernía-Leal, Inmaculada Fernández, Miguel Muñoz, Ralf Wellinger and Nouredine Khair.  
**Title:** Sweet Nanomaterials: Carbohydrate-Coated Carbon Nanotubes and Glyconanosomes as Advanced Nanovectors for Drug Delivery.  
**Congress:** Nanobiomed  
**Date:** 23-26 April 2013  
**Type:** Poster

**Place:** Bilbao, Spain

16. **Authors:** Nouredine Khiar, **Mohyeddin Assali**, Manuel Pernía-Leal, Inmaculada Fernández, Miguel Muñoz, Ralf Wellinger, and Juan-José Cid.

**Title:** SWCNTs/Glycolipids: New Biologically-active Supramolecular Assemblies.

**Congress:** XXIV Reunión Bienal De Química Orgánica.

**Date:** 11-13 July 2012

**Type:** Poster flash (oral communication).

**Place:** San Sebastián, Spain.

17. **Authors:** N. Khiar, **M. Assali**, M. Pernía Leal, J.J. cid, I. Frenández.

**Title:** Sweet Nanotubes: New Biologically active Nanosystems.

**Congress:** Challenges in Bioorganic & Organic Medicinal Chemistry: 13th Tetrahedron Symposium.

**Date:** 26-29 June 2012.

**Type:** Poster.

**Place:** Amsterdam, Netherlands.

18. **Authors:** **Mohyeddin Assali**, Manuel Pernía Leal, Inmaculada Fernández, Miguel Muñoz, Ralf Wellinger, Nouredine Khiar.

**Title:** Sweet Carbon Nanotubes: New biologically active Glyconanosystems

**Congress:** VIII Simposio de Jóvenes Investigadores-RSEQ.

**Date:** 25-28 October 2011.

**Type:** oral communication

**Place:** Malaga, Spain

19. **Authors:** Nouredine Khiar, **Mohyeddin Assali**, Manuel Pernía Leal, Inmaculada Fernández, Rachid Baati, Miguel Muñoz, Ralf Wellinger

**Title:** Supramolecular Self-Organization of Neoglycolipids on Carbon Nanotubes: New Bioactive Glyconanosystems.

**Congress:** 17th European Symposium of Organic Chemistry (ESOC 2011)

**Date:** 10-15 July 2011.

**Type:** Poster

**Place:** Crete (Greece).

20. **Authors:** **Assali, M**, Fernández, I, Muñoz, M, Wellinger, R, Khiar, N.

**Title:** Carbon Nanotubes-Carbohydrates: New Functional Nanosystems Against Bacterial Infections.

**Congress:** III Reunión de Jóvenes Farmacólogos de Andalucía

**Date:** 16-17 June 2011

**Type:** Poster

**Place:** Sevilla, Spain.

21. **Authors:** Navas, R.; Assali M.; Fernandez, I. ; Rotello, V.M.; Khiar, N.  
**Title:** Nanopartículas De Oro Y Quantum Dots: Nuevas Nanosistemas Para El Transporte De Fármacos.  
**Congress:** III Reunión de Jóvenes Farmacólogos de Andalucía  
**Date:** 16-17 June 2011  
**Type:** Poster  
**Place:** Sevilla, Spain.
22. **Authors:** N. Khiar, **M. Assali**, M. Muñoz Bravo, I. Fernández.  
**Title:** Carbohydrates Amphiphiles for Non-Covalent Functionalization of MWCNTs: Biocompatible Nanoglycoarrays.  
**Congress:** X Jornadas de carbohidratos.  
**Date:** 15-18 September 2010  
**Type:** Poster  
**Place:** Granada, Spain.
23. **Authors:** N. Khiar, **M. Assali**, M. Pernía, R. Recio, I. Fernández, R. Baati.  
**Title:** Supramolecular Self-Organization of Neoglycolipids on Carbon Nanotubes: Glyconanoabacus with Biomimetic Multivalent Display of Carbohydrates.  
**Congress:** Challenges in Organic Chemistry and Chemical Biology (ISACS1).  
**Date:** 6-9 July 2010  
**Place:** San Francisco, USA.
24. **Authors:** N. Khiar, **M. Assali**, M. Pernía, R. Baati, R. Recio, I. Fernández, and C. Mioskowski.  
**Title:** Bioengineering of Carbon Nanotubes: Glyconanoabacus with Biomimetic Display of Carbohydrates.  
**Congress:** Nanospain 2010  
**Date:** 23-26 march 2010  
**Place:** Malaga, Spain.
25. **Authors:** N. Khiar, **M. Assali**, R. Navas, J.F Moya, I. Fernández, R. Baati.  
**Title:** A Butterfly-like model for non-covalent functionalization of MWCNTs as a biocompatible nanoglycoarrays  
**Congress:** Nanospain 2010  
**Date:** 23-26 march 2010  
**Place:** Malaga, Spain.
26. **Authors:** N. Khiar, M. Pernia Leal, **M. Assali**, R. Baati, I. Fernandez Fernandez, C. Mioskowski

**Title:** Self-Assembly and Photopolymerization of Diacetylene-Based Glycolipids on Carbon Nanotubes: Glyconanoabacus With Biomimetic Display of Carbohydrates

**Congress:** 16th European Symposium on Organic Chemistry.

**Date:** 12-16 July 2009

**Place:** Prague, Czech Republic.

27. **Authors:** M. Assali, M. Pernía Leal, I. Fernández, R. Baati, C. Mioskowski and N. Khier.

**Title:** Non-covalent functionalization of carbon nanotubes with glycolipids: glyconanomaterials with specific lectin-affinity

**Congress:** Nanospain 2009

**Date:** 9-12 March 2009

**Place:** Zaragoza, Spain.