

Faculté/Institut : Sciences exactes

Département : Chimie

| 1- Identification du laboratoire/Unité de recherche |  | إسم المخبر      |                 |
|---|--|-----------------|-----------------|
| Intitulé du Laboratoire                             | Obtention de Substances Thérapeutiques |                 |                 |
| Acronyme du labo                                    | LOST                                   |                 |                 |
| Adresse électronique                                | lost@umc.edu.dz                        |                 |                 |
| Site web ou URL                                     | www.lost.umc.edu.dz                    |                 |                 |
| Année d'Agrément :                                  | 2002                                   | Tel : 031811100 | Fax : 031811100 |

| 2- Directeur du laboratoire/Unité de recherche |   |                      |                           |
|--|---|----------------------|---------------------------|
| Nom & Prénom                                   | Kabouche Zahia                                    | Grade : Prof         |                           |
| Adresse Electronique                           | zahiakabouche@gmail.com; zahiakabouche@umc.edu.dz |                      |                           |
| Nombre Equipes :                               | 4   | Nbre Chercheurs : 36 | Nbre Personnel soutien :1 |

| 3- Présentation du laboratoire  |
|---|
| <p><b>Thèmes mis en œuvres :</b></p> <p><b>Thème 1:</b> Synthèse catalytique de substances bioactives</p> <p><b>Thème 2:</b> Séparation et identification des métabolites secondaires de plantes médicinales Algérienne et investigation de leur potentiel biologique (activités antioxydante, anticholinestérase, anticancer , anti-inflammatoire...)</p> <p><b>Thème 3:</b> Plantes médicinales utilisées contre l'inflammation</p> <p><b>Thème 4:</b> Drug Design basé sur POM (Petra Osiris Molinspiration) et sur d'autres logiciels plus performants pour la modélisation et l'étude de la relation structure-activité (antioxydante, anti-inflammatoire, etc...).</p> <p><b>Mots-Clés :</b> Plantes médicinales, principes actifs, activités biologiques, inflammation, synthèse catalytique</p> |

| 4- Chefs d'équipes               |  |              |
|----------------------------------|--|--------------|
| Titre de l'Equipe1               | Synthèse, isolement et drug design de molécules bioactives                                   |              |
| Nom - Chef d'équipe <sup>1</sup> | Kabouche Zahia   | Grade : Prof |
| Titre de l'Equipe2               | Obtention de substances bioactives par voie naturelle  |              |
| Nom - Chef d'équipe <sup>2</sup> | Kabouche Ahmed   | Grade : Prof |
| Titre de l'Equipe3               | Activités biologiques de plantes médicinales Algériennes                                     |              |
| Nom - Chef d'équipe <sup>3</sup> | Zerizer Sakina   | Grade : Prof |
| Titre de l'Equipe4               | Etude phytochimique et évaluation du potentiel biologique de plantes médicinales algériennes |              |
| Nom - Chef d'équipe <sup>4</sup> | Berrehal Djemaa  | Grade : MCA  |

## 5- Liste des publications :

1. H. Lakhal, A. Kabouche, Z. Kabouche, Flavonoids and antioxidant activity of *Stachys olusatrum*. *Chemistry of Natural Compounds* (2011), 46(6), 964-965.
2. A. Kabouche, Z. Kabouche, R. Touzani, C. Bruneau. Flavonoids from *Centaurea sulphurea*. *Chemistry of Natural Compounds* (2011), 45(6), 966-967.
3. I. L. Acebey-Castellon, L. Voutquenne-Nazabadioko, H. D. Thi Mai, N. Roseau, N. Boutaghane, D. Muhammad, E. Le Magrex Debar, S. C. Gangloff, M. Litaudon, T. Sevenet, Ng. Van Hung, C. Lavaud . Triterpenoid saponins from *Symplocos lancifolia*. *Journal of Natural Products* (2011), 74(2), 163–168.
4. K. Kaabeche-Djerafi, N. Bendjaballah-Lalaoui, S. Semra. Effect of medium capacity on the relationship between chemical heterogeneity and linearly adsorbed solute dispersion into fixed beds. *Proceedings of World Academy of Science, Engineering and Technology* (2011), 52, 686-689.
5. O. Touafek, Z. Kabouche, I. Brouard, J. B. Bermejo. Flavonoids of *Campanula alata* DESF. and their antioxidant activity. *Chemistry of Natural Compounds* (2011), 45(6), 968-969.
6. R. Bencheraiet, H. Kherrab, A. Kabouche, Z. Kabouche, M. Jay. Flavonols and antioxidant activity of *Ammi visnaga* L. (Apiaceae). *Records of Natural Products* (2011), 5, 52-55.
7. N. Boutaghane, A. Kabouche, R. Touzani, Y. A. Maklad, Ai.El-Azzouny, C. Bruneau, Z. Kabouche. GC/MS Analysis and Analgesic Effect of the Essential Oil of *Matricaria pubescens* from Algeria. *Natural Product Communications* (2011), 6(2), 251-252.
8. S. Laggoune, A. Zeghib, A. Kabouche, Z. Kabouche, F. Leon, I. Brouard, J. Bermejo, C.A. Calliste, J.L. Duroux. Components and Antioxidant activity of the roots of the endemic species *Stachys mialhesi* de Noé. *Records of Natural Products* (2011), 3, 238-241.
9. T. Boudiar, C. Bensouici, J. Safaei-Ghomi, A. Kabouche, Z. Kabouche. GC/MS Analysis of *Ammoides atlantica* (Coss. et Dur.) *Journal of Essential Oils Bearing Plants* (2011), 14(2), 172-174.
10. A. Labed, I. Labed, J. Safaei-Ghomi, A. Kabouche, Z. Kabouche. GC/MS Analysis of *Oenanthe virgata* *Journal of Essential Oils Bearing Plants* (2011), 14(4), 481-483.
11. S. Chibani, H. Berhail-Boudouda, A. Kabouche, T. Aburjai, Z. Kabouche, Analysis of the essential oil of *Ferula communis* L. from Constantine (Algeria). *International Journal of Medicinal and Aromatic Plants* (2011), 1(2), 41-44.
12. R. Bencheraiet, A. Kabouche, Z. Kabouche, M. Jay. Flavonols from *Smyrniium olusatrum* (Apiaceae). *Chemistry of Natural Compounds* (2011), 47, 813-814.
13. R. Bencheraiet, A. Kabouche, Z. Kabouche, M. Jay. Flavonols from *Bupleurum plantagineum* (Apiaceae). *Chemistry of Natural Compounds* (2011), 47, 814-815.
14. A. Khalfallah, A. Labed, A. Kabouche, Z. Semra, B. Ait Kaki, A. Kabouche, R. Touzani, Z. Kabouche. Antibacterial activity and chemical composition of essential oil of *Ammi visnaga* L. (Apiaceae) from Algeria. *International Journal of Medicinal and Aromatic Plants* (2011), 1(3), 302-305
15. A. Khalfallah, A. Karioti, D. Berrehal, A. Kabouche, M. Lucci, Z. Kabouche, A.R. Bilia . Flavonoid triglycosides from *Astragalus armatus*. 59th International Congress and Annual Meeting of the Society for Medicinal Plant Natural Product Research Antalya 09/11 (PG47). *Planta Medica* (2011), 77, 1229-1472.
16. T. Boudiar, I. labed, J. Safaei-Ghomi, A. Kabouche, Z. Kabouche. Analysis of the essential oil of *Ruta chalepensis* subsp. *angustifolia* from Algeria. *Journal of Essential Oils Bearing Plants* (2011), 14(6), 792-795.
17. R. Bencheraiet, A. Kabouche, Z. Kabouche, R. Touzani, M. Jay. Flavonol 3-O-glycosides from three Algerian *Bupleurum* species. *Records of Natural Products* (2012), 6, 174-175.
18. O. Touafek, Z. Kabouche, J. Boustie, C. Bruneau. A new long chain unsaturated ester and other constituents of *Hypericum tomentosum* (Clusiaceae). *Natural Product Communications* (2012), 7(1), 63-64.
19. N. Benzeggouta, Z. Semra, Z. Kabouche. From ethnopharmacology to green chemistry “dawilou” a traditional herbal mixture. *Pharmacophore* (2012), 3(1), 76-80.

20. I Labeled, S. Chibani, Z. Semra, A. Kabouche, T. Aburjai, R. Touzani, Z. Kabouche. Antibacterial activity and chemical composition of essential oil of *Athamanta sicula* L. (Apiaceae) from Algeria. *E-Journal of Chemistry* (2012), 9(2), 796-800.
21. T. Boudiar, Z. Sehli, B. Sandararaju, M. Achard, Z. Kabouche, H. Doucet, C. Bruneau. Isoquinoline derivatives via stepwise regioselective sp<sup>2</sup> and sp<sup>3</sup> C-H bond functionalizations. *Journal of Organic Chemistry* (2012), 77, 3677-3678.
22. A. Nacer, J Merza, Z. Kabouche, S. Rhouati, J. Boustie, P. Richomme. Sesquiterpenes lactones from *Centaurea tougourensis*. *Biochemical Systematics and Ecology* (2012), 43, 163-165.
23. S. Rekkab, H. Zarrok, R. Salghi, A. Zarrouk, Lh. Bazzi, B. Hammouti, Z. Kabouche, R. Touzani, M. Zougagh. Green corrosion inhibitor from essential oil of *Eucalyptus globulus* (Myrtaceae) for C38 steel in sulfuric acid Solution. *Journal of Materials and Environmental Sciences* (2012), 3(4), 613-627.
24. O. Gherboudj, N. Benkiki, E. Seguin, F. Tillequin, Z. Kabouche. Components of *Matricaria pubescens* (Desf.) Schultz (Asteraceae) from Algerian Septentrional Sahara. *Chemistry of Natural Compounds* (2012), 48(3), 470-471.
25. S. Bencharif-Betina, T. Miyamoto, C. Tanaka, **Z. Kabouche**, A-C. Mitaine-Offer, M.A. Lacailles Dubois. Two new triterpene saponins from *Cyclamen africanum*. 8th Joint Meeting of AFERP, ASP, GA, PSE and SIF, New York City, 07/2012 (PI298). *Planta Medica* (2012), 78 (11), 1027-1310.
26. R. Bencheraiet, A. Kabouche, M. Jay, Z. Kabouche. Flavonoids of *Phylospermum acteaeifolium*. *Chemistry of Natural Compounds* (2012), 48(3), 480-481.
27. A. Khalfallah, D. Berrehal, A. Kabouche, Z. Kabouche. Flavonoids of *Centaurea omphalodes*. *Chemistry of Natural Compounds* (2012), 48(3), 482-483.
28. H. Mokaddem-Daroui, O. Touafek, A. Kabouche, Z. Kabouche, C.A. Calliste, J.L. Duroux. Components and antioxidant activity of the polar extract of *Chrysanthemum trifurcatum* (Desf.) Batt. & Trab. *Chemistry of Natural Compounds* (2012), 48(3), 498-499.
29. C. Bensouici, A. Kabouche, Z. Kabouche. Flavonoids of *Centaurea foucauldiana*. *Chemistry of Natural Compounds* (2012), 48(3), 510-511.
30. D. Berrehal, A. Khalfallah, A. Kabouche, A. Karioti, A. Bilia, A.C. Goren, Z. Kabouche. Flavonol glycosides from *Reseda arabica*. *Records of Natural Products* (2012), 6(4), 368-370.
31. S. Bencharif-Betina, T. Miyamoto, C. Tanaka, Z. Kabouche, A-C. Mitaine-Offer, M.A. Lacailles Dubois. Two new triterpene saponins from *Cyclamen africanum* Boiss. & Reut. *Helvetica Chimica Acta* (2012), 95(9), 1573-1580.
32. S. Chibani, C. Bensouici, A. Kabouche, T. Aburjai, R. Touzani, Z. Kabouche. Analysis of the essential oil of aerial parts of *Ferula lutea* Poiret from Algeria. *Journal of Essential Oils Bearing Plants* (2012), 15(4), 682-685.
33. S. Chibani, C. Bensouici, A. Kabouche, Z. Kabouche, M. M. Al-Dabbas, T. Aburjai. Flavonoids and antioxidant activity of *Santolina rosmarinifolia* from Algeria. *Chemistry of Natural Compounds* (2012), 48(5), 877-878.
34. H. Kaddouri, M. Bouklah, S. Rekkab, R. Touzani, S.S. El-Deyab, B. Hammouti, A. Aouniti, Z. Kabouche. Thermodynamic chemical and electrochemical investigation of calixarene derivatives as corrosion inhibitor for mild steel in hydrochloric acid solution. *International Journal of Electrochemical Sciences* (2012), 7, 9003-9024.
35. S. Zerizer, K. S. Zaher N. Boutaghane, S. Laggoune, Z. Kabouche. Comparative effect of *Chrysanthemum macrocarpum* and *Stachys mialhesi* on the rats aorta exposed to homocysteine with B Vitamins. *Scottish Journal of Arts, Social Sciences and Scientific Studies* (2012), 6(1), 54-64.
36. O. Touafek, M. Lahouel, E. Makhoulfi, L. Benguedouar, J. Boustie, C. Bruneau, Z. Kabouche. Components and antioxidant activity of *Hypericum tomentosum* L. *Journal of Biologically Active Products from Nature* (2012), 2(3), 158-166.
37. H. Berhail Boudouda, A. Benmerache, S. Chibani, A. Kabouche, S. Abuhamdah, Z. Semra, Z. Kabouche. Antibacterial Activity and Chemical Composition of Essential Oils of *Inula viscosa* (L.) Ait. (Asteraceae) from Constantine, Algeria. *Der Pharmacia Lettre* (2012), 4(6), 1863-1867.
38. A. Benmerache, D. Berrehal, Khalfallah, A. Kabouche, Z. Semra, Z. Kabouche. Antioxidant,

- antibacterial activities and flavonoids of *Reseda phyteuma* L. *Der Pharmacia Lettre* (2012), 4(6), 1878-1882.
39. A. Benmebarek, S. Zerizer, S. Laggoune, Z. Kabouche. Immunostimulatory activity of *Stachys mialhesi* de Noé. *Allergy, Asthma & Clinical Immunology* (2013), 9:2 doi:10.1186/1710-1492-9-2, online January 2013.
  40. H. Ghorab, A. Kabouche, Z. Semra, A. Ghannadi, E.B. Sajjadi, R. Touzani, Z. Kabouche. Biological activities and compositions of the essential oil of *Thymus ciliatus* from Algeria. *Der Pharmacia Lettre* (2013), 5(1), 28-32.
  41. A. Benmerache, D. Berrehal, A. Kabouche, Z. Semra Z, O. Thomas, R. Touzani, Z. Kabouche. Antioxidant, antibacterial activities and flavonoids of *Convolvulus fatmensis* G. Kunze. *Der Pharmacia Lettre* (2013), 5(1), 371-375.
  42. S. Rekkab, M. Lahouel, C. Félix, Z. Kabouche, T. Ben Hadda. Design and anticoagulant activity of calixarene sulfonates. *Comptes Rendus de Chimie* (2013), 16, 672-678.
  43. S. Chibani, W. Gherboudj, A. Kabouche, T. Aburjai, R. Touzani, Z. Kabouche. GC-MS Composition of the essential oil of *Senecio giganteus*. *Journal of Essential Oils Bearing Plants* (2013), 6(1), 123-125.
  44. H. Ghorab, S. Laggoune, A. Kabouche, Z. Semra, Z. Kabouche. Essential oil composition and antibacterial activity of *Artemisia campestris* L. from Khenchela (Algeria). *Der Pharmacia Lettre* (2013), 5(2), 189-192.
  45. A. Bouratoua, O. Touafek, A. Kabouche, Z. Kabouche. Bioactive components of the butanolic extract of *Hypericum tomentosum* L. (Clusiaceae). *Der Pharmacia Lettre* (2013), 5(2), 201-204.
  46. C. Bensouici, A. Benmerache, S. Chibani, A. Kabouche, S. Abuhamdah, Z. Semra, Z. Kabouche. Antibacterial activity and chemical composition of the essential oil of *Satureja calamintha* ssp. *sylvatica* from Jijel, Algeria. *Der Pharmacia Lettre* (2013), 5(2), 224-227
  47. A. Benmebarek, S. Zerizer, S. Laggoune, Z. Kabouche. Effect of *Stachys mialhesi* de Noé on the inflammation induced by hyperhomocysteinemia in Cardiovascular diseases. *Der Pharmacia Lettre* (2013), 5(2), 212-223.
  48. S. Chibani, A. Labed, A. Kabouche, Z. Semra, F. Smati, T. Aburjai, R. Touzani, Z. Kabouche. Antibacterial Activity and Chemical Composition of Essential oil of *Santolina rosmarinifolia* L. (Asteraceae) from Algeria. *Der Pharmacia Lettre* (2013), 5(2), 238-241.
  49. M. Lehbili, S. Chibani, A. Kabouche, Z. Semra, F. Smati, S. Abuhamdah, R. Touzani, Z. Kabouche. Composition, antibacterial and antioxidant activity of the essential oil of *Thymus guyonii* de Noé from Algeria. *Der Pharmacia Lettre* (2013), 5(2), 306-310.
  50. N. Boutaghane, L. Voutquenne-Nazabadioko, D. Harakat, Z. Kabouche. Triterpene saponins from *Genista ulicina* Spach. *Phytochemistry* (2013), 93, 176-181.
  51. S. Bencharif-Betina, T. Miyamoto, C. Tanaka, Z. Kabouche, A.C. Mitaine-Offer, M.A. Lacaille-Dubois. Ursane-Type Saponins from *Zygophyllum cornutum*. *Natural Product Communications* (2013), 8(5), 573-574. N. Boutaghane, L. Voutquenne-Nazabadioko, A. Simon, D. Harakat, K. Benlabed, Z. Kabouche. A new triterpenic diester from the aerial parts of *Chrysanthemum macrocarpum*. *Phytochemistry Letters* (2013), 6, 519-525.
  52. Mihoubi, I. Ramli, K. Frahtia, Z. Kabouche, Z. Harrat. Demonstration of the leishmanicidal activity of *Stachys guyoniana* against *Leishmania major* In Eastn Algeria. *Médecine et Santé tropicale* (2013), 23(2), 230-231.
  53. B. Aribi, S. Zerizer, Z. Kabouche. Immunomodulatory activity of *Argania spinosa* seeds. *International Journal of Pharmacy and Pharmaceutical Sciences* (2013), 5(3), 488-491.
  54. A. Zeghib, S. Laggoune, A. Kabouche, Z. Semra, F. Smati, R. Touzani, Z. Kabouche. Composition, antibacterial and antioxidant activity of the essential oil of *Thymus numidicus* Poiret from Constantine (Algeria). *Der Pharmacia Lettre* (2013), 5(3), 206-210.
  55. H Lakhhal, H. Ghorab, S. Chibani, A. Kabouche, Z. Semra, F. Smati, S. Abuhamdah, Z. Kabouche. Chemical composition and biological activities of the essential oil of *Salvia officinalis* from Batna (Algeria). *Der Pharmacia Lettre* (2013), 5(3), 310-314.
  56. I. Semra, A. Benmerache, S. Chibani, A. Kabouche, S. Abuhamdah, Z. Kabouche. Composition and antioxidant activity of the essential oil of *Origanum glandulosum* Desf. from Algeria. *Der Pharmacia Lettre* (2013), 5(3), 381-385.

57. L. Djarri , M. Ferhat, G. Merabet, Chelghoum, Laggoune, Z. Semra, F. Smati, Z. Kabouche. Composition and antibacterial activity of the essential oil of *Ruta montana* from Constantine (Algeria). *Der Pharmacia Lettre* (2013), 5(4), 70-73.
58. A. Bouratoua, A. Khalfallah, A. Kabouche, Z. Semza, Z. Kabouche. Total phenolic quantification, antioxidant, antibacterial activities and flavonoids of Algerian *Calotropis procera* (Asclepiadaceae). *Der Pharmacia Lettre* (2013), 5(4), 204-207.
59. S. Chibani, A. Bouratoua, A. Kabouche, S. Laggoune, Z. Semra, F. Smati, Z. Kabouche. Composition and antibacterial activity of the essential oil of *Ruta chalepensis* subsp. *angustifolia* from Algeria. *Der Pharmacia Lettre* (2013), 5(5), 252-255.
60. S. Chibani, H. Ghorab, A. Kabouche, Z. Semra, A. Ghannadi, E.B. Sajjadi, Z. Kabouche. Biological activities and compositions of the essential oil of *Thymus ciliatus* subsp. *coloratus* from Bir Chouhada (Algeria). *Der Pharmacia Lettre* (2013), 5(5), 280-284.
61. A. Benmerache, D. Berrehal, A. Kabouche, Z. Kabouche. Flavonol glycosides from *Convolvulus supinus* and their antioxidant activity. *Chemistry of Natural Compounds* (2013), 49(5), 936-937.
62. H. Berhail Boudouda, A. Kabouche, T. Aburjai, Z. Kabouche. GC-MS Analysis of *Inula graveolens* (L.) Desf. from Algeria. *Journal of Essential Oil Bearing Plants* (2013), 16 (5), 651-654.
63. H. Kaddouri, S. Rekkab, M. Bouklah, B. Hammouti, A. Aouniti, Z. Kabouche. Experimental study of inhibition of corrosion of mild steel in 1M HCl solution by two newly synthesized calixarene derivatives. *Research on Chemical intermediates* (2013), 39, 3649-3669.
64. H. Ghorab, A. Kabouche, Z. Kabouche. Comparative compositions of essential oils of *Thymus* growing in various soils and climates of North Africa. *Journal of Materials and Environmental Sciences* (2014), 5(1), 298-301.
65. A. Khalfallah, A. Karioti, D. Berrehal, A. Kabouche, M. Lucci, A. R. Bilia, Z. Kabouche. A new flavonol triglycoside and other flavonol glycosides from *Astragalus armatus* Willd. (Fabaceae). *Records of Natural Products* (2014), 8(1), 12-18.
66. A. Benmebarek, S. Zerizer, H. Lakhal, Z. Kabouche. Biphasic dose response effect of *Stachys ocymastrum* on the reticuloendothelial system phagocytic activity. *International Journal of Pharmacy and Pharmaceutical Sciences* (2014), 6(2), 534-537.
67. M. Ferhat, A. Kabouche, Z. Kabouche. Comparative compositions of essential oils of three *Ruta* species growing in different soils. *Journal of Materials and Environmental Sciences* (2014), 5(3), 735-738.
68. A. Khalfallah, D. Berrehal, A. Kabouche, A. Karioti, A.R. Bilia, Z. Kabouche. Flavonoids and antioxidant, antibacterial activities of *Eryngium triquetrum* vahl. *Chemistry of Natural Compounds* (2014), 50(1), 130-131.
69. H. Lakhal, A. Kabouche, A. Alabdul Magid, L. Voutquenne-Nazabadioko, D. Harakat, Z. Kabouche. Triterpenoids from *Salvia argentea* var. *aurasiaca* (Pomel) Batt. & Trab. and their chemotaxonomic significance. *Phytochemistry* (2014), 102, 145-151.
70. H. Kehili, S. Zerizer, Z. Kabouche. Immunostimulatory activity of *Phoenix dactylifera*. *International Journal of Pharmacy and Pharmaceutical Sciences* (2014), 6(3), 73-76.
71. S. Chibani, M. Al-Dabbas, S. Abuhamdah, T. Aburjai, R. Bencheraiet, A. Kabouche, M. Jay, Z. Kabouche. Flavonoids and antioxidant activity of *Thapsia garganica* from Algeria. *Chemistry of Natural Compounds* (2014), 50(2), 357-359.
72. W. Tadrent, M. Benteldjoune, S. Laggoune, A. Benmerache, A. Kabouche, Z. Semra, Z. Kabouche. Composition and antibacterial activity of the essential oil of *Cotula anthemoides*. *Chemistry of Natural Compounds* (2014), 50(4), 744-746.
73. M. Ferhat, H. Ghorab, S. Laggoune, A. Ghannadi, S.E. Sajjadi, R. Touzani, A. Kabouche, Z. Kabouche. Composition and antioxidant activity of the essential oil of *Thymus dreatensis* from Algeria. *Chemistry of Natural Compounds* (2014), 50(4), 747-749.
74. W. Tadrent , A. Kabouche, R. Touzani, Z. Kabouche. Chemotypes investigation of essential oils of "Guertoufa" herbs. *Journal of Materials and Environmental Sciences* (2014), 5(4), 1200-1205.
75. A. Bouratoua, M. Ferhat, A. Kabouche, S. Laggoune, R. Touzani, Z. Kabouche. Comparative compositions of essential oils of *Ferula*. *Journal of Materials and Environmental Sciences* (2014), 5(4), 1214-1217.

76. M. Belhadj Mostefa, A. Kabouche, I. Abaza, T. Aburjai, R. Touzani, Z. Kabouche. Chemotypes investigation of *Lavandula* essential oils growing at different North African soils. *Journal of Materials and Environmental Sciences* (2014), 5(6), 1896-1901.
77. M.K. Abderrezak, I. Abaza, T. Aburjai, A. Kabouche, Z. Kabouche. Comparative compositions of essential oils of *Citrus aurantium* growing in different soils. *Journal of Materials and Environmental Sciences* (2014), 5(6), 1913-1918.
78. H. Cherchar, D. Berrehal, A. Khalfallah, A. Kabouche, Z. Kabouche. Chemotypes of Algerian and Moroccan *Thymus ciliatus*. *Moroccan Journal of Chemistry* (2014), 2, 85-89
79. H. Berhail Boudouda, A. Zeghib, A. Karioti, A. R. Bilia, M. Öztürk, M. Aouni, A. Kabouche, Z. Kabouche. Antibacterial, antioxidant, anti-cholinesterase potential and flavonol glycosides of *Biscutella raphanifolia* (Brassicaceae). *Pakistan Journal of Pharmaceutical Science* (2015), 28(1), 153-158.
80. I. Labeled, A. Labeled, Y. Sun, F. Jiang, M. Achard, S. Dérien, Z. Kabouche, C. Bruneau. [Cp\*Ru]-catalyzed selective coupling/Hydrogenation. *Catalysis Science & Technology* (2015), 5, 1650-1657.
81. A. Labeled, F. Jiang, I. Labeled, A. Lator, M. Peters, M. Achard, A. Kabouche, Z. Kabouche, G.V.M. Sharma, C. Bruneau. Iridium-Catalyzed Sustainable Access to functionalized Julolidines through Hydrogen Autotransfer. *ChemCatChem* (2015), 7, 1090-1096.
82. I. Labeled-Zouad, A. Labeled, S. Laggoune, Z. Semra, A. Kabouche, Z. Kabouche. Chemical composition and antibacterial activity of four essential oils from *Ferula vesceritensis* Coss. & Dur. against clinical isolated and food-borne pathogens (Apiaceae) *Records of Natural Products* (2015), 9(4), 518-525
83. M. Nassar, S. Zerizer, Z. Kabouche, A. Kabouche, S. Bechkri. Antioxidant and the immunomodulatory activities exhibited by three plants from Lamiaceae family. *International Journal of Pharmacy and Pharmaceutical Sciences* (2015), 7(9), 331-334
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