

Employing Audio-Visual Aids in Teaching English as a Foreign Language

Taqwa Rashid Juma'a

The General Directorate of Education, Al-Najaf Al-Ashraf, Iraq

Corresponding Author Email: taqwaa.1988@gmail.com

Abstract

English language is characterized as language of the world because of its use as a major means for communication across borders globally. With the development of technology, various new innovations are appeared to be utilized in classroom in teaching English as foreign language (EFL) such as audio-visual aids. Audiovisual aids represent instructional materials which are employed to communicate messages more effectively via sounds and visuals. The implementation of such devices encourage the teaching process as well as improve and facilitate quick comprehension of the students.

Keywords: EFL, teaching English, technology, audiovisual aids, teaching process

References

- [1] Malik H, Pandith A. Essential of Instruction Technology. n.p. 2011.
- [2] Daiel J. Audi-Visual Aids in Teaching English. International Journal of Innovative Research in Science, Engineering and Technology.2013; 2(8): 3811-3814.
- [3] Park G. Audio Visual Aids. (1st Ed). Ching Ford: London.1999.
- [4] Harmer J. The Practice of English Language Teaching. (4th Ed). England: Pearson Education Limited.2007.
- [5] Stoner G. Effectively communicating with visual aids. n.p. 2009.
- [6] Mathew N, Alidmat A. A study on the usefulness of audio-visual aids in EFL classroom: Implications for effective instruction. International Journal of Higher Education. 2013; 2(2): 86-91.

Biological reclamation of soils contaminated with petroleum hydrocarbons

Mohammed Saeed Haran

Shatrah Technical Institute - Southern Technical University

Correspondence; mha37013@gmail.com

Abstract

Studies have shown a positive correlation between the numbers of broken and analyzed bacteria of hydrocarbons in oil and the percentages of cracking. Thus, the numbers of broken bacteria of petroleum hydrocarbons play an important role as sensitive indicators that reflect the degree of biological cracking of hydrocarbons. Also, light and medium hydrocarbons are higher in response to the bacterial bio cracking process than heavy hydrocarbons, and the presence of hydrocarbons increases the number of bacteria analyzed. Biological treatment occurs a chemical change in hydrocarbon pollutants, as these microbes use the contents of hydrocarbons as a source of food leading to the decomposition of these compounds, and therefore the final products of bio-digestion consist of biomass, carbon dioxide, water, mineral elements and energy, usually organic compounds do not completely decompose completely. Rather, they form less molecular weight compounds such as alcohols and organic acids. These compounds are of low toxicity to microbes and easily digested biologically if the appropriate environmental conditions are present.

Keywords: Biological reclamation, petroleum, soil, hydrocarbons

References

- [1] Al-Jadir M S. The effect of fuel oil on the activity of rhizobium and the growth of beans and their resistance to antibiotics. MSc. Thesis. Faculty of Agriculture. Baghdad University, 2006.
- [2] Al Kaabi N A. Biological reclamation of soils contaminated with petroleum hydrocarbons affected by salinity. Master Thesis. Basrah University. College of Agriculture, 2010
- [3] Nasr R B. Genetic bacteriological study of bacteria consuming hydrocarbon compounds. MSc. Thesis. College of Science. Baghdad University, 2000.
- [4] Jones K C, Stratford J A, Waterhouse K S, Vogt N B. Organic contaminants in Welsh soils: Polynuclear aromatic hydrocarbons. *Environmental Science and Technology* 1989; 23: 540-550.
- [5] Acves M, Grimalt J O. Gas Chromatographic screening of organic compounds in urban aerosols. change in hydrocarbon composition during storage. *Journal of chromatography* 1993; 655:133-140.
- [6] Al-Haidari N K, Al-Musleh R M. Industrial microorganisms. Ministry of Higher Education and Scientific Research, University of Baghdad. House of Wisdom, 1989.
- [7] Atlas R M. Principles of Microbiology, 2nd edition. Wm. C. Brown Publishers 1997: 805-811.
- [8] Al-Saad H T, Majestic A S, Nader A. Marine pollution. College of Marine Sciences and Environment. Al-Hodeidah University, Republic of Yemen. 1st edition, 2003.
- [9] Atlas R M, Cerniglia C E. Principles of Microbiology. Mosby: Toronto, 2000.
- [10] Al-Janabi A Y. The effect of fungus pollination (*Aspergillus niger*) on phosphorus readiness, some heavy elements, and the growth of yellow corn in soil treated with sewage waste. Master Thesis. Basrah University, College of Agriculture, 2013.
- [11] Meulenber R, Rijnaarts H M, Doddema H J, Field J A. Partially oxidized polycyclic aromatic hydrocarbons show an increased bioavailability and Biodegradability *FEMS. Microbiol* 1997; 152: 42 – 49.

- [12] Degtyarenko K. Controlled Vocabularies and Ontologies in Enzymology. European Bioinformatics Institute, Wellcome Trust Genome Campus, Hinxton, Cambridge CB10 1SD. 2004:143-171.
- [13] Ananza K. Hazardous waste and the environment. Eligibility for publication and distribution. The Hashemite Kingdom of Jordan. The first edition. Oman. Jordan Printing House, 2002.
- [14] Al-Mousawi A A. The ability of blue-green algae (for cyanobacteria) to break down some of the crude oil compounds, while studying some of the changes that occur to them with the effect of oil. Master Thesis. College of Education. Basrah University, 1999.
- [15] Al-Obaidi I M A. The effect of crude oil on some physiological activities of cyanobacterium, which contains vesicles, and its effect on rice growth and germination. Master Thesis. College of Science. Baghdad University, 1990.
- [16] Haroune N, Bruno C, Pascale B, Martine S, Achim K, Thorsten R, Heleen D W, Anne-Marie D. Metabolism of 2-Mercaptobenzothiazole by *Rhodococcus rhodochrous*. *Applied and Environmental Microbiology* 2004; 70(10): 6315-6319.
- [17] Feitkenhauer H, Markl H. Biodegradation of aliphatic and aromatic hydrocarbons at high temperatures. *Water Science Technology* 2003; 47 (10): 123- 130.
- [18] Reynolds C M, Wolf D C. Microbial based strategies for assessing rhizosphere-enhanced phytoremediation. Proceedings of the phytoremediation Technical Seminar, Calgary, AB. Environment Canada: Ottawa, 1999; 125-135.
- [19] Ebbs S D, Lasat M M, Brady D J, Cornish J, Gordon R, Kochian L V. Phytoextraction of cadmium and zinc from a contaminated soil. *J. of Env. Qual.* 1997; 26: 1424-1430.
- [20] Eperi V, Sorensen D L. Chapter 15 Benzo (a) Pyrene and hexachlorobiphenyl contaminated soil: phytoremediation potential. *phytoremediation of soil and water Contaminants*. E.L. kruger, T.A. Anderson and J.R. Coasts. American Chemical Society: Washington, D.C. ACS Symposium Series 1997; 664: 200-222.
- [21] Eriksson M, Dalhammer G, Borg-Karlson A K. Aerobic degradation of a hydrocarbon mixture in natural uncontaminated potting soil by indigenous

- microorganisms at 20°C and 6°C. *Appl. Microbiology Biotechnology* 1999; 51:532-535.
- [22] Aldrett S, Bonner J S, Mills M A, Autenrieth R L, Stephens F L. Microbial degradation of crude oil in marine environments tested in a flask experiment. *Water Research* 1997; 31:2840-2848.
- [23] Rhykerd R L, Crews B, McInnes K J, Weaver R W. Impact of bulking agent, forced aeration and tillage on remediation of oil-contaminated soil. *Biores. Technol.* 1999; 67:279-285.
- [24] Atlas R M, Bartha R. *Microbial Ecology: Fundamentals and Applications*. Benjamin / Cummings publishing company, Inc: Don Mills, ON., 1998.
- [25] Terry J, Gillespie P W, Mortimu S A. Volatile hydrocarbon emissions from biomass fuel. Contaminated Soil Bioremediation facility. *Journal of the Air and Waste Management Association* 2002; 52: 769-780.
- [26] Dagestani S R, Abdul Karim H A. The effect of different black oil levels on some soil properties and barley growth. *Iraqi Journal of Agriculture* 1998; 3 (2): 51-61.
- [27] Omar S A, Abdel-Satar M A, Khallil A M, Abd-Alla M H. Growth and enzyme activities of fungi and bacteria in soil salinized with sodium chloride. *Folia Microbiology* 1994; 39(1):23-28.

Investment aims, areas, and types and its risks

Mutaz Y. Abuagla

Kingdom of Saudi Arabia - Petro Najd

Corresponding Author Email: mtzabuagla72@gmail.com

Abstract

In this research, we will discuss the objectives of investment, types, and risks, as investment is the main factor that controls the rate and size of economic growth on the one hand, and how this growth occurs on the other. Investment is of great importance in all economies, regardless of the nature of the prevailing economic systems, or the poverty or wealth of countries, whether developing or developed. The importance of investment lies in the fact that it achieves economic development and stability, as well as the development of available wealth in order to satisfy various needs. Investing as an economic and financial activity includes various goals, magazines and types, and it exposed it to many risks that may affect the achievement of its goals and the return from it.

Keywords: Investment, risks, economic growth, goals, economic

أهداف ومجالات الاستثمار وأنواعه ومخاطره

الخلاصة

في هذا البحث سنتطرق لأهداف الاستثمار ومجالاته وأنواعه ومخاطره، حيث يعتبر الاستثمار العامل الرئيسي الذي يتحكم في معدل النمو الاقتصادي وفي حجمه من ناحية، وفي كيفية حدوث هذا النمو من ناحية أخرى. ويحتل الاستثمار أهمية كبيرة في جميع الاقتصادات بغض النظر عن طبيعة الأنظمة الاقتصادية السائدة، أو فقر أو غنى البلدان سواء النامية أو المتقدمة. وتكمن أهمية الاستثمار في كونه يحقق التنمية والاستقرار الاقتصاديين

وكذا تنمية الثروات المتاحة من أجل إشباع الحاجات المختلفة. ويتضمن الاستثمار كنشاط اقتصادي ومالي أهدافاً ومجالات وأنواعاً مختلفة، كما أنه عُرضه للعديد من المخاطر التي قد تُؤثر على عدم تحقيقه لأهدافه والعائد منه.

الكلمات المفتاحية: الاستثمار ، المخاطر ، النمو الاقتصادي ، الأهداف ، الاقتصاد

المصادر

- [1] دريد كامل آل شبيب، الاستثمار والتحليل الاستثماري، (الأردن: دار اليازوري العلمية للنشر، 2009م.
- [2] طاهر حيدر حردان، أساسيات الاستثمار، عمان: دار المستقبل للنشر، 2009م.
- [3] زياد رمضان، مبادئ الاستثمار الحقيقي والمالي، عمان: دار وائل للنشر، 1998 م .
- [4] عبد الحميد البعلي ، المدخل لفقہ البنوك الإسلامية، مكة المكرمة: الاتحاد الدولي للبنوك الإسلامية، 1983م.
- [5] علي لطفي، إدارة أزمة الاستثمارات في ضوء التكتلات الاقتصادية العالمية، مصر، دار الضيافة، 2007م.
- [6] رضا عبد السلام، محددات الاستثمار الأجنبي المباشر في عصر العولمة، القاهرة المكتبة العصرية، 2007م.
- [7] عقيل جاسم، مدخل في تقييم المشروعات، القاهرة : دار حامد للنشر والتوزيع، 1999.
- [8] أوصاف علي، الأهمية النسبية لطرق التمويل المختلفة في النظام المصرفي خطة الاستثمار في البنوك الإسلامية، عمّان: المجمع الملكي لبحوث الحضارة الإسلامية، 1990م.
- [9] عبد الفتاح قنديل، سلوى سليمان، الدخل القومي، القاهرة: جامعة القاهرة، 1985م.
- [10] عبد المعطي رضا أرضيد، حسين علي خربوش ، الاستثمار والتمويل بين النظرية والتطبيق، عمان: دار الزهران للنشر، 1999م.
- [11] حسين عمر، الاستثمار والعولمة، القاهرة : دار الكتاب الحديث، 2000م.

[12] عادل عبد الفضيل، الاحتياط ضد مخاطر الاستثمار في المصارف الإسلامية، القاهرة : دار الفكر الجامعي، 2011م.

[13] حمزة محمود، الاستثمار في الأوراق المالية، عمان: الوراق للنشر والتوزيع، 2001م.

References

- [1] Al-Shabib D K. Investment and investment analysis, (Jordan: Al Yazouri Scientific Publishing House, 2009.
- [2] Hardan T H. Fundamentals of investment, Oman: Dar Al Mostaqbal Publishing, 2009
- [3] Ramadan Z. Principles of Real and Financial Investment, Amman: Wael Publishing House, 1998.
- [4] Al-Baali A H. Entrance to the jurisprudence of Islamic banks, Makkah Al-Mukarramah: International Union of Islamic Banks, 1983.
- [5] Lotfi A. Managing the investment crisis in the light of global economic blocs, Egypt, the guesthouse, 2007.
- [6] Salam R A. The determinants of foreign direct investment in the era of globalization, Cairo, the modern library, 2007.
- [7] Jasim A. An introduction to project evaluation, Cairo Dar Hamid for Publishing and Distribution, 1999.
- [8] Ali A. The relative importance of the various financing methods in the banking system, the investment plan in Islamic banks, Amman: The Royal Academy for Islamic Civilization Research, 1990
- [9] Qandil A, Suleiman S. National income, Cairo: Cairo University, 1985.
- [10] Ardhid R, Kharbush H A. Investment and financing between theory and practice, Amman: Zahran Publishing House, 1999
- [11] Omar H. Investment and globalization, Cairo: Dar Al-Kitab Al-Hadith, 2000.
- [12] Abdul-Fadil A. Precaution against investment risks in Islamic banks, Cairo: University House of Thought, 2011.
- [13] Mahmoud H. Investing in Securities, Oman: Al-Warraq for Publishing and Distribution, 2001.

The rules governing the international envoy of the United Nations

Ammar Morad Aleasawy

University of Alkafeel, College of Law, Iraq

Corresponding Author Email: amar.morad1985@gmail.com

Abstract

After the exacerbation of the phenomenon of non-international armed conflicts, in the period after the end of the Cold War in 1990, the role of the United Nations in combating these armed conflicts increased, as this role is divided into two phases, the first is the stage of prevention, and the second stage revolves around how to deal with armed conflict, it is intended to contain it in its early stages, or to reduce the human suffering caused by its various effects on civilians. For the first phase of the United Nations role in preventing non-international armed conflicts, it includes four steps that are limiting the proliferation of weapons, especially small and light weapons, that are widely used during internal armed conflicts, and then fighting against various forms of transnational organized crime, for their significant role. In arousing armed conflicts such as mercenaries and armed militias, the United Nations is also working through its various organs, branches and specialized agencies, to build the capabilities of the security, economic and social fragile states, to avoid their occurrence in armed conflicts, so the United Nations adopted a new mechanism in the wake of the 1994 ethnic cleansing crimes in Rwanda. Which is monitoring and early warning before a conflict breaks out.

Keywords: Rwanda, economic, fighting, significant role, conflict

القواعد المنظمة للمبعوث الدولي للأمم المتحدة

الخلاصة

بعد تقادم ظاهرة اندلاع النزاعات المسلحة غير الدولية، في فترة ما بعد انتهاء الحرب الباردة سنة 1990، تزايد دور الأمم المتحدة في محاربة تلك النزاعات المسلحة، حيث ينقسم هذا الدور إلى مرحلتين، الأولى تتمثل في مرحلة الوقاية منها، أما المرحلة الثانية فتتمحور حول كيفية التعاطي مع النزاع المسلح، قصد احتوائه في مراحله الأولى، أو التقليل من المعاناة الإنسانية التي تسببها آثاره المختلفة على المدنيين. بالنسبة للمرحلة الأولى المتمثلة في دور الأمم المتحدة في الوقاية من النزاعات المسلحة غير الدولية، تشمل أربع خطوات تتمثل بالحد من انتشار السلاح لاسيما الأسلحة الصغيرة والخفيفة، التي تستخدم على نطاق واسع أثناء النزاعات المسلحة الداخلية، ثم محاربتها لمختلف صور الجريمة المنظمة العابرة للحدود، لدورها الكبير في إثارة النزاعات المسلحة كالمرتزقة والمليشيات المسلحة، كما تعمل الأمم المتحدة عبر مختلف أجهزتها وفروعها ووكالاتها المتخصصة، على بناء قدرات الدول الهشة امنيا واقتصاديا واجتماعيا، لتجنب وقوعها في الصراعات المسلحة، لذا انتهجت الأمم المتحدة آلية جديدة في أعقاب جرائم التطهير العرقي التي وقعت عام 1994 في رواندا، وهي الرصد والإنذار المبكر قبل اندلاع النزاع.

الكلمات المفتاحية: : رواندا ، اقتصادية ، قتالية ، دور مهم ، صراع

المصادر

- [1] محمد منولي ، الأحكام الخاصة بأعضاء السلكين الدبلوماسي والقنصلي وممثلي المنظمات الدولية في القانون المصري، ط1، دار النهضة العربية ، القاهرة ، 1994 ، ص41.
- [2] صالح يحيى الشاعري ، تسوية النزاعات الدولية سلمياً، ط1 ، مكتبة مدبولي ، القاهرة ، 2006 ، ص21 .
- [3] صلاح الدين عامر ، قانون التنظيم الدولي ، ط3 ، دار النهضة العربية ، القاهرة ، 1984 ، ص407.

- [4] لاسا أوبنهايم. قانون دولي. المجلد 1 ، لندن ، جامعة إندنبرة ، 1967 ، ص 305.
- [5] مسعد عبد الرحمن زيدان ، تدخل الأمم المتحدة في النزاعات المسلحة غير ذات الطابع الدولي ، دار الكتب القانونية ، القاهرة ، 2008 ، ص58.
- [6] احمد حلمي ابراهيم ، الدبلوماسية ، دار عالم الكتب ، القاهرة ، ط2، 1986 ، ص 55.
- [7] إبراهيم علي بدوي الشيخ ، الأمم المتحدة وإنتهاكات حقوق الإنسان ، المجلة المصرية للقانون الدولي ، العدد 36 ، القاهرة ، 1980 ، ص 135 .
- [8] سهيل حسين الفتلاوي ، الحصانة القضائية للمبعوث الدبلوماسي في العراق ، مطبعة جامعة بغداد ، 1980 ، ص514 ،
- [9] ميشا جليبي، سقوط حرب البلقان في يوغوسلافيا ، الطبعة الثالثة ، نيويورك ، 1996 ، ص 122.
- [10] أنطونيو كاسيس. "الحرب الأهلية والقانون الدولي" ، مراجعة عامة للقانون الدولي ، المجلد 90 ، 1986 ، ص 558.
- [11] ساندرنا سنجر ، حماية الأطفال في حالات النزاع المسلح ، بحث منشور في كتاب دراسات في القانون الدولي الإنساني ، أعداد نخبة من المتخصصين ، تقديم دكتور مفيد شهاب ، ط2 ، دار المستقبل العربي ، القاهرة ، 2009 ، ص143.
- [12] أحمد محمود جمعة، الدبلوماسية في عصر العولمة ، دار النهضة العربية ، القاهرة ، 2004 ، ص 11 .
- [13] ابراهيم محمد العناني، النظام الدولي في مواجهة الازمات والكوارث ، ط3، دار النهضة العربية ، القاهرة ، 2007 ، ص13.
- [14] بطرس بطرس غالي، التنظيم الدولي ، مكتبة أنجلو-المصرية ، الإسكندرية ، ط1، 1956، ص295
- [15] المادة (8/ف2) من اتفاقية فينا.
- [16] إليوت أبرام ، "لمحاربة الكفاح الجيد" المصلحة الوطنية ، العدد 54 ، واشنطن: 2000 ، ص 70.
- [17] موسى مخول، موسوعة الحروب والازمات الاقليمية في القرن العشرين- اوربا ، الطبعة الثانية ، بيسان للنشر ، لبنان ، 2008 ، ص170-171.

- [18] عامر الجومرد ، النص العربي لميثاق الأمم المتحدة وأخطاؤه ، بحث منشور في مجلة للحقوق ، كلية القانون ، جامعة الموصل ، العدد الرابع، 1998 ، ص148-180.
- [19] رجب عبدالمنعم متولي، منظمة الامم المتحدة بين الابقاء والالغاء في ضوء التطورات الراهنة ، مصدر سابق ، ص29.
- [20] خليل حسين، موسوعة القانون الدولي العام ، ج 1 ، ط 1 ، منشورات الحلبي الحقوقية، بيروت، 2012، ص129.
- [21] علي إبراهيم، ظاهرة الحروب الأهلية في الديار العربية ، مجلة العلوم القانونية والاقتصادية، العدد الأول والثاني ، جامعة عين شمس، 1985 ، ص12.
- [22] العين بيليه وباتريك دايلير . قانون عالمي عام. LGDJ. باريس ، الطبعة الخامسة ، 1994 ، ص 66.
- [23] نزار العنكي ، القانون الدولي الانساني ، ط1 ، دار وائل للنشر ، عمان ، 2010 ، ص194.
- [24] سهيل حسين الفتلاوي ، التنظيم الدولي ، دار الثقافة ، عمان ، 2007.
- [25] إبراهيم العناني، منع ومعاقبة الجرائم ضد الأشخاص المحميين دولياً، مجلة الدبلوماسية، المملكة العربية السعودية، العدد السادس، 1986، ص98.
- [26] عصام عبد الفتاح مطر ، القانون الدولي الإنساني ، مصادره ومبادئه وأهم قواعده ، دار الجامعة الجديدة ، القاهرة ، 2008 ، ص114 .
- [27] حميد المجذوب ، القانون الدولي العام ، الطبعة الخامسة ، منشورات الحلبي الحقوقية ، بيروت ، 2004، ص210.
- [28] جان بكتيه ، القانون الدولي الإنساني ، تطوره ومبادئه ، بحث منشور في كتاب دراسات في القانون الدولي الإنساني ، الطبعة الأولى ، دار المستقبل العربي ، القاهرة ، 2000 ، ص67.
- [29] رياض صالح أبو العطا ، قضية الأسرى في ضوء القانون الدولي الإنساني ، دار الجامعة الجديدة ، الإسكندرية ، 2009 ، ص27-28.
- [30] إبراهيم العناني، منع ومعاقبة الجرائم ضد الأشخاص المحميين دولياً، بحث منشور في مجلة الدبلوماسية، المملكة العربية السعودية، العدد السادس، 1986، ص98.

[31] عامر الزمالي , مدخل الى القانون الدولي الانساني , منشورات المعهد العربي , لحقوق الانسان , تونس , 1997 , ص 37 .

[32] ايجور بليشنيكو , اعتماد البروتوكولين الإضافيين لعام 1977 , المجلة الدولية للصليب الأحمر , العدد 57 , سبتمبر , 1996 , ص 520 ,

[33] السيد ابو عطية , القانون الدولي في زمن الحرب , دار النهضة العربية , القاهرة , بدون ذكر سنة نشر , ص 54 .

[34] شادي عدنان الشديفات , حصانة المبعوث الدبلوماسي (الملاحقة القضائية أم الافلات من العقاب , بحث منشور في مجلة جامعة الشارقة للعلوم الشرعية والقانونية , الامارات العربية , المجلد 14 , العدد الأول , 2016 , ص 394 .

References

- [1] Metwally M. The Provisions for Members of the Diplomatic and Consular Corps and Representatives of International Organizations in Egyptian Law, 1st Edition, Dar Alnahda Alarabia, Cairo, 1994, p. 41.
- [2] Al-Shaeri S Y. Peaceful Settlement of International Conflicts, 1st Edition, Madbouly Library, Cairo, 2006, p. 21.
- [3] Amer S A. Law of International Organization, 3rd edition, Dar Alnahda Alarabia, Cairo, 1984, p. 407.
- [4] Lhasa Oppenheim. International law. Volume 1, London, University of Edinburgh, 1967, p. 305.
- [5] Zidan M R. The United Nations Intervention in Armed Conflicts of an International Character, Dar Al-Kutub Al-Qanani, Cairo, 2008, p. 58.
- [6] Ibrahim A H. Diplomacy, Dar Al-Alam Al-Kutub, Cairo, 2nd edition, 1986, p. 55
- [7] Al-Sheikh I B. The United Nations and Human Rights Violations, Egyptian Journal of International Law, No. 36, Cairo, 1980, p. 135.
- [8] Al-Fatlawi S H, Judicial Immunity of the Diplomatic Envoy in Iraq, Baghdad University Press, 1980, p. 514

- [9] Jellini M. The Fall of the Balkan War in Yugoslavia, 3rd Edition, New York, 1996, p. 122.
- [10] Cassis A. Civil War and International Law, General Review of International Law, V. 90, 1986, p. 558.
- [11] Singer S. Protection of Children in Armed Conflict. A research paper published in a book of studies in international humanitarian law, prepared by an elite group of specialists, presented by Dr. Mofeed Shehab, 2nd edition, Dar Al-Mustaqbal Al-Arabi, Cairo, 2009, p. 143.
- [12] Jumaa A M. Diplomacy in the Globalization Era, Dar Alnahda Alarabia, Cairo, 2004, p. 11.
- [13] Al-Anani I M. The International System in Confronting Crises and Disasters, 3rd edition, Dar Alnahda Alarabia, Cairo, 2007, p. 13.
- [14] Boutros-Ghali B. International Organization, The Anglo-Egyptian Library, Alexandria, 1st edition, 1956, p. 295.
- [15] Article (8 / F2) of the Vienna Convention.
- [16] Abram E. To Fight the Good Fight, National Authority, No. 54, Washington: 2000, p. 70.
- [17] Makhoul M. Encyclopedia of Wars and Regional Crises in the Twentieth Century - Europe, 2nd Edition, Bessan for Publishing, Lebanon, 2008, pp. 170-171.
- [18] Al-Jumard A. Arabic text of the Charter of the United Nations and its errors, research published in the Journal of Law, College of Law, University of Mosul, 4th Edition, 1998, pp. 148-180.
- [19] Metwally R A. United Nations Organization, between maintaining and abolishing focus of current developments, previous source, p. 29.
- [20] Hussein K. Encyclopedia of Public International Law, Part 1, 1st Edition, Al-Halabi Human Rights Publications, Beirut, 2012, p. 129.
- [21] Ibrahim A. The phenomenon of civil wars in Arab homes, Journal of Legal and Economic Sciences, first and second issue, Ain Shams University, 1985, p. 12.
- [22] Pele A., Diller P. General universal law. LGDJ. Paris, 5th Edition, 1994, p. 66.
- [23] Al-Anbuge N. International Humanitarian Law, 1st Floor, Dar Wael for Publishing, Amman, 2010, p. 194.
- [24] Al-Fatlawi S H. International Organization, House of Culture, Amman, 2007.

- [25] Al-Anani I. Preventing and Punishing Crimes Against Internationally Protected Persons. The Diplomatic Magazine, Kingdom of Saudi Arabia, No. 6, 1986, p. 98.
- [26] Matar E A. International Humanitarian Law, Sources of Principles and the Most Important Rules, Dar Aljamiah Aljadidah, Cairo, 2008, p. 114.
- [27] Al-Majzoub H. Public International Law, 5th Edition, AL-Halabi Legal for Publications, Beirut, 2004, p. 210.
- [28] Paktieh J. International Humanitarian Law, Its Development and Principles, research published in a book of studies in international humanitarian law, first edition, Dar Al-Mustaqbal Al-Arabi, Cairo, 2000, p. 67.
- [29] Abu Al-Atta R S. The Prisoners' Case in the International Humanitarian Law, New University House, Alexandria, 2009, pp. 27-28.
- [30] Al-Anani I. Preventing and Punishing Crimes Against Internationally Protected Persons, research published in Al-Diplomacy magazine, Kingdom of Saudi Arabia, No. Six, 1986, p. 98.
- [31] Al-Zemali A. Introduction to International Humanitarian Law, Publications of the Arab Institute for Human Rights, Tunis, 1997, p. 37.
- [32] Plechenko I. Adoption of the Two Additional Protocols of 1977, International Journal of the Red Cross, No. 57, 1996, p. 520.
- [33] Abu Attia A. International Law in Time of War, Dar Alnahda Alarabia, Cairo, without mentioning the year of publication, p. 54.
- [34] Al-Shdifat S A. Immunity of the Diplomatic Envoy (Prosecution or Impunity), research published in the Journal of the University of Sharjah for Sharia and Legal Sciences, United Arab Emirates, Volume 14, First Issue, 2016, p. 394.

Does the knowledge of patients is important to store and dispose of the medications in a proper way?

E. I. Dukali^{1, *}, M. Ahmed Elgndi², Ab. M. Aldhduh³

^{1, 2}Department of Pharmaceutical, Faculty of Pharmacy, University of Elmergib, Libya

³Department of Pharmacology and Clinical Pharmacy, Faculty of Pharmacy, University of Elmergib, Libya

Corresponding Author Email: idokaty@gmail.com

Abstract

Background: Pharmaceutical products require proper storage and dispose in order to ensure that their quality is not compromised due to moisture and temperature. This study is done to clarify the relation between the patient who has educated about the proper storage and dispose of medicines, and the method where he will store and dispose the medicines. A 15-questions survey was created to examine possible correlations in patients, and it has handed out in three main pharmacies. According to the results, the high percentage of patients who keep the medicine in kitchen and bathroom are not informed. Also the large number of participants who dispose the medicines by trashing them to the toilet or sink, are not informed. This study shows that education of patients in terms of the good storage and proper dispose of drugs, are important to keep these medications with high quality and could greatly impact the environment and give a cleaner and healthier environment.

Keywords: Proper storage, proper dispose, pharmacies, medicines, environment

References

- [1] Jacobs S, Hassell K, Ashcroft D, Johnson S, O'Connor E. Workplace stress in community pharmacies in England: associations with individual, organizational and job characteristics. *Journal of Health Services Research Policy* 2014;19 (1): 27-33.
- [2] Bajaj S, Singla D, Sakhuja N. Stability testing of pharmaceutical products. *Journal Applied Pharmaceutical Science* 2012; 2(3): 129-38.
- [3] <http://www.takebackyourmeds.org/faq>. Accessed March 29, 2012.
- [4] Glassmeyer ST, Hinchey EK, Boehme SE, Daughton CG, Ruhoy IS, Conerly O, Daniels RL, Lauer L, McCarthy M, Nettesheim TG, Sykes K. Disposal practices for unwanted residential medications in the United States. *Environment international* 2009; 35 (3): 566-72.
- [5] Seehusen DA, Edwards J. Patient practices and beliefs concerning disposal of medications. *The Journal of the American Board of Family Medicine*. 2006;19 (6): 542-7.
- [6] Medication Waste Disposal Activity resources page. APhA Government Affairs Resources Web site <http://www.pharmacist.com/AM/Template.cfm?Section=Home2&CONTENTID=20036&TEMPLATE=/cm/ContentDisplay.cfm>. Accessed April 3, 2012.
- [7] Shultz J, Harvie M, McDonald D, Manley J. *Hospital Pharm*, 2017, 60(3),101-104.

**Studying the Effect of Substituting Praseodymium in Superconductor
($\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$)**

Afaf S. Zawaly¹, Someraa S. Shakonah², Hanan A. Altahir³

Zawia University, College of Education, Abu-Issa, Physics Department, Zawia, Libya

Corresponding Authors Email: a.zawaly@zu.edu.ly¹; s.shakonah@zu.edu.ly²;

h.abdulrahman@zu.edu.ly³

Abstract

Superconductors are materials that lose all resistance to the flow of electricity when cooled below a critical transition temperature (T_c) however; this ability of superconductors to conduct electricity with zero resistance can be exploited in the use of electrical transmission lines. Bulk high-temperature superconductors (HTS) exhibits lower critical current densities than thin films which result of the weak superconductivity at the grain boundaries. The critical current rapidly falls with respect to applied magnetic field than with thin films. Superconductivity is a thermodynamic phase distinguishing properties that depends on microscopic details such as zero resistivity to low applied currents in the absence of magnetic field or at an applied field less than the critical value. The uniqueness of high temperature superconductor relies much on their ability to maintain steady current and expel magnetic fields effect without deteriorating. The aim of this research is to investigate the effect of Pr substitution in the ($\text{YBa}_2 \text{Cu}_{3-x} \text{Pr}_x$) $\text{O}_{7-\delta}$ ($x= 0, 0.1, 0.2, 0.3$) and metallic behavior over the range of samples.

Keywords: Praseodymium, superconductor ($\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$), lattice parameters, thermodynamic

References

- [1] Sungho J. Processing and Properties of High-T Superconductors. New York: Pergamum, 1993.
- [2] Van Duzer T, Turner CW. Principles of superconductive Devices and Circuits. London: Arnold Press, 1981.
- [3] Wu MK, Ashburn JR, Torng CJ, Hor PH, Meng RL, Gao L, Huang ZJ, Wang YQ, Chu CW. Superconductivity at 93 K in a New Mixed-Phase Y-Ba-Cu-O Compound System at Ambient Pressure. Physical Review Letters 1987; 58 (9): 908-910.
- [4] Hor PH, Gao L, Meng RL, Huang ZJ, Wang YQ, Forster K, Vassilious J, Chu CW, Wu M K, Ashburn JR Torng CJ. High-pressure study of the new Yb-Ba-Cu-O superconducting compound system. Physical Review Letters 1987; 58 (9): 911-912.
- [5] Veal BW, Paulikas AP, You H, Shi H, Fang Y, Downey JW. Observation of temperature-dependent site disorder in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ below 150 °C. Physical Review B. 1990; 42(10): 6305-6316.
- [6] Sadewasser S, Schilling JS, Paulikas AP, Veal BW. Pressure dependence of T_c to 17 GPa with and without relaxation effects in superconducting $\text{YBa}_2\text{Cu}_3\text{O}_x$. Physical Review B. 2000; 61(1):741-749.
- [7] Basov, N.G. (edited by). Superconductivity. Lebedev P N. Physics Institute: 86, 178 pgs., Plenum, 1977. ISBN: 0-306-10939-5.
- [8] Bardeen J, Cooper LN, Schrieffer JR. Theory of superconductivity. Physical review. 1957; 108 (5): 1175.
- [9] John L. Superconductivity: The New Alchemy. London: Contemporary Books Inc., 1st edition, 1989.

Rhetorical aesthetics in the approach to rhetoric and conceptual metaphor as a model (for the literary intellectual concept based on linguistic knowledge)

Ali Piranishal, Zainulabdeen Hameed Tuaimah

Kharazmi University, Tehran, Iran

Corresponding Author Email: anys.jor@gmail.com

Abstract

Conceptual metaphor is one of the most important data of cognitive linguistics and cognitive semantics. A large part of our perceptions, mental, and intellectual system is a metaphor of nature according to its subjective characteristics and metaphor shows our thinking and cognitive approaches so our knowledge in all dimensions is closely related to metaphor, and since moral and moral concepts nature because it is related to abstract spiritual and intellectual properties. So borrowing has an important role in morals and moral texts. For example, generosity, courage, patience, miserliness, cowardice and other virtues and vice are all abstract concepts that are not embodied and can only be imagined by metaphor. So the rhetoric approach book as a religious and moral text with different curricula was an important focus of this study. Through this descriptive-analytical approach, this research attempts to study the moral system of rhetoric approach in terms of how to use metaphor to form the moral system by studying metaphors (piety, morals and self-love) using conceptual metaphor as a model, so the research aims to identify the role of metaphor in ethics and how it is structured in rhetoric approach. The study also showed that conceptual metaphors play an important role in the moral system. Imam Ali used numerous and varied positivist and creative metaphors to define and embody ethical concepts, especially notions of piety and morality, so the results of this research indicate that metaphor has a distinct place in the moral system in the rhetoric approach.

Keywords: Approach to rhetoric, conceptual metaphor, morality

References

- [1] Al-Douri KA. Philosophy and Sociology, Dar Al-Ghadeer Printing and Publishing, Dubai, 1st Edition 2008.
- [2] Ateeq AA. The Science of Statement, 1st floor, Beirut, Arab Renaissance House, 1985.
- [3] Al-Hanasali S. Modern Arab Metaphors and Poetry, 1st Floor, Toubkal Publishing House, Casablanca, Morocco, 2008.
- [4] Al-Katib A. Articles of the Declaration, 1st Edition, Syria, Dar Al-Bashaer, 2003.
- [5] Johnson, Moral Imagination Implications of Mindfulness to Ethics, 1st Edition, El-Alamein, Beirut, Lebanon, 1993.
- [6] La Lakouf GJ. The Metaphors We Live with, translated by Abdel Majid Jahfa, 2nd edition, Morocco, Toubkal Publishing House, 2009.
- [7] Lakoff GJ. Women, Fire, and Dangerous Things. What Categories Reveal about the Mind. The University of Chicago Press, Chicago 60637, Printed in the United States of America, 1987.
- [8] Al-Sakaki. Manifestations of deliberation in Miftah Al-Ulum, Master Thesis, Manuscript, Department of Arts and the Arabic Language, University of Mohamed Khidr, Algeria 2012.
- [9] El-Wali M. Borrowing at Greek, Arab and Western stations, 1st Edition, Dar Al-Aman Publications, Rabat, 2005.
- [10] Al-Makri M. Form and Discourse: An Introduction to Phenomena. The Arab Cultural Center, Lebanon, 1991.
- [11] Darwish M. Why I Left the Horse Alone, 3rd Floor, Riyad Al-Rayes for Books and Publishing, Beirut, Lebanon, 2001.
- [12] Gallim. The Metaphors We Live and the Semantic Generation, 2nd Floor, Dar Al-Nahda, Beirut, Lebanon, 1996.
- [13] Salim AI. Similar Structures in the Arabic Language, 2nd Floor, Dar Toubkal Al Maghrib, 2001.
- [14] Al-Hanasali S. Modern Arab Metaphors and Poetry, 1st Floor, Toubkal Publishing House, Casablanca, Morocco, 2008.
- [15] Al-Qayrawani IR. The Mayor, 2nd floor, Dar Sader, Beirut, Lebanon, 1999.
- [16] Ricoeur P. Interpretation Theory: Discourse and the Surplus of Meaning. The Texas Christian University Press, 1976.

[17] Thales A. The Art of Poetry, translated by Abd Al-Rahman Badawi, 1st Edition, Dar Al-Thaqafa, Beirut, Lebanon, 1997.

[18] Sabra A. Metaphorical Thinking in Western Studies. Alamat Journal, 2003.

الجماليات البلاغية في نهج البلاغة الاستعارية المفهومية أنموذجاً (للمفهوم الفكري الأدبي على أساس المعرفة اللسانية)

الخلاصة

إنَّ الاستعارة المفهومية من أهم معطيات اللسانيات المعرفية وعلم الدلالة المعرفي، على أساس هذه المعطيات قسم كبير من تصوراتنا ونظامنا الذهني والفكري استعارة طَّبِيعَةً وفقاً لخصائصه الذاتية، والاستعارة تبين مناهجنا التفكيرية والإدراكية فمعرفة في جميع الأبعاد ترتبط ارتباطاً وثيقاً بالاستعارة، وبما أنَّ المفاهيم الأدبية والأخلاقية من ماهية طبيعة لأنها ترتبط بالخصائص الروحية والفكرية المجردة فللاستعارة دور هام في الأخلاق والنصوص الأخلاقية. فمثلاً الكرم، الشجاعة، الصبر، البخل، الجبن وغيرها من الفضائل والردائل كلها مفاهيم مجردة غير مجسدة لا يمكن تصورها عادة إلا بالاستعارة، لذا فكتاب نهج البلاغة بوصفه نصاً دينياً وأخلاقياً بمناهج مختلفة كان محوراً مهماً لهذه الدراسة. إنَّ هذا البحث يحاول عبر المنهج الوصفي-التحليلي، دراسة المنظومة الأخلاقية لنهج البلاغة من حيث كيفية توظيف الاستعارة لتكوين النظام الأخلاقي بدراسة استعارات (التقوى والأخلاق وهوى النفس) مستخدماً الاستعارة المفهومية نموذجاً، لذا يهدف البحث التعرف على دور الاستعارة في الأخلاق وكيفية بنيتها في نهج البلاغة. كما وضحت الدراسة أن للاستعارات المفهومية دوراً هاماً في النظام الأخلاقي العلوي فقد استخدم الإمام علي(ع) الاستعارات الوضعية والابداعية العديدة والمتنوعة لتعريف وتجسيم المفاهيم الأخلاقية وخاصة مفاهيم التقوى والأخلاق، لذا تدل نتائج هذا البحث على أنَّ للاستعارة مكانة متميزة في النظام الأخلاقي في نهج البلاغة.

الكلمات المفتاحية: نهج البلاغة، الاستعارة المفهومية، الأخلاق

المصادر

- [1] خليل عبد الحميد الدوري. علم الفلسفة والاجتماع ، دبي، دار الغدير للطباعة والنشر، 2008م.
- [2] عبد العزيز عتيق. علم البيان، لبنان، بيروت، دار النهضة العربية، 1985م .
- [3] سعيد الحنصالي. الاستعارات والشعر العربي الحديث ، المغرب، دار توبقال للنشر، الدار البيضاء، 2008م.
- [4] علي الكاتب: مواد البيان، سوريا، دار البشائر، 2003م.
- [5] جونسون. الخيال الأخلاقي مستتبعات علم الذهن للأخلاق، ط1، لبنان بيروت، دار العلمين، 1993م.
- [6] لا يكوف، جورج جونسون. الاستعارات التي نحيا بها، ترجمة عبد المجيد جحفة، المغرب ، دار توبقال للنشر، 2009م.
- [7] لا يكوف جورج. نساء ونار وأشياء خطيرة، مطبعة جامعة شيكاغو ، شيكاغو 60637 ، مطبوعة في الولايات المتحدة الأمريكية ، 1987.
- [8] السكاكي. مظاهر التداولية في مفتاح العلوم ، رسالة ماجستير ، مخطوطة ، قسم الآداب واللغة العربية، الجزائر، جامعة محمد خيضر، 2012 م.
- [9] محمد الولي. الاستعارة في محطات يونانية وعربية وغربية، الرياض، منشورات دار الامن، 2005م.
- [10] محمد الماكري الشكل والخطاب مدخل ظاهراتي، المركز الثقافي العربي، لبنان، 1991م .
- [11] محمود درويش. لماذا تركت الحصان وحيدا، لبنان، بيروت، رياض الريس للكتب والنشر، 2001م.
- [12] غاليم. الاستعارات التي نحيا بها والتوليد الدلالي، لبنان بيروت، دار النهضة، 1996 م .
- [13] عبد الإله سليم. بنيات المشابهة في اللغة العربية، المغرب، دار توبقال، 2001م.
- [14] سعيد الحنصالي. الاستعارات والشعر العربي الحديث ،المغرب، دار توبقال للنشر ، الدار البيضاء ، 2008م.
- [15] ابن رشيق القيرواني. العمدة، بيروت، لبنان، دار صادر، 1999م .
- [16] بول ريكور. نظرية التأويل وفائض المعنى، ترجمة سعيد الغانمي الطبعة الثانية: 2006. المركز الثقافي العربي، 1976م .
- [17] أرسطو طاليس. فن الشعر، ترجمة عبد الرحمن بدوي، بيروت لبنان دار الثقافة، 1997م.
- [18] أحمد صبرة. التفكير الاستعاري في الدراسات الغربية، مجلة علامات ، 2003 م.

Preparation and study of electrical properties of MPAMI thin film by laser technology

Shimaa A. J. Farhan, Sahib Neamh Abdulwahid, Abid Allah M. Ali

University of Kufa, College of Education for Girl, Department of Physics, Najaf, Iraq

Abstract

The compound (MPAMI) was prepared from the duplication of the Diaz onium salt of the compound Para toluidine with the imidazole in an alcoholic base medium. Then this compound was diagnosed after sedimentation and purification by analytical and spectroscopic means including mass spectrum and magnetic nuclear resonance spectrum. Where the scientific ratios showed a great match for the carbon, hydrogen and nitrogen elements, which indicates the correctness of the proposed combinations for this compound. Then study the electrical properties of the thin films (MPAMI) prepared by the method of pulsed laser deposition by laser of (1000, 3000, 5000) mJ cm⁻² pure and copper oxide-like (CuO) ratio (10%). It was observed through electrical measurements in the case of frontal alignment (darkness and lighting current), the current increases linearly with increasing voltage, and that the electrical conductivity is its highest value at 3000) mJ cm⁻² for the pure thin films (MPAMI). While in the case of Deformation Electrical conductivity at 1000 mJ/cm² is as high.

Keywords: Ablation, nanomaterials, pulsed laser, CuO nanostructures

References

- [1] Jabbar AS. A Study of Some Physical Properties of (Cd) Films deposited by locally fabricated D.C. Sputtering, University of Technology, M.Sc. Thesis, 2006.
- [2] Chen A, Long H, Li X, Li Y, Yang G, Lu P. Controlled growth and characteristics of single-phase Cu₂O and CuO films by pulsed laser deposition. *Vacuum*. 2009; 83(6): 927-30.
- [3] Yousif AA, Habubi NF, Haidar AA. Nanostructure Zinc Oxide with Cobalt Dopant by PLD for Gas Sensor Applications. *Journal of Nano- and Electronic Physics* 2012; 4 (2): 1-6.
- [4] Mahajan S, Meenu R, Dubey RB, Mahajan J. Synthesis and Characterization of Zinc Selenide Nanoparticles at Various Reaction Time. *International journal of Latest Research in Science and Technology* 2013; 2: 457-9.
- [5] Sharma P, Seidel J. Scanning probe microscopy of functional materials surfaces and interfaces. *Advanced Materials Interfaces*. A. Tiwari, H. K. Patra, X. Wang, Eds. (Scrivener Publishing, 2016): 63–125.
- [6] Yan Z, Bao J, Yue XY, Li XL, Zhou YN, Wu XJ. Impacts of preparation conditions on photoelectric properties of the ZnO: Ge transparent conductive thin films fabricated by pulsed laser deposition. *Journal of Alloys and Compounds*. 2020; 812: 152093.
- [7] Al-Assiri MS, Mostafa MM, Ali MA, El-Desoky MM. Synthesis, structural and electrical properties of annealed ZnO thin films deposited by pulsed laser deposition (PLD). *Super Lattices and Microstructures* 2014; 75: 127-135.

Probing the cytotoxic effect of MT1-MMP targeted anticancer prodrug

Salem M. Agfer¹, Robert A. Falconer², Jason H. Gill², Rema N. Nagi³, Ibrahim E. Dukali⁴, Ahmed M. Elgndi⁵

¹*Department of pharmacology, Faculty of pharmacy, Elmergib University, Alkoms, Libya*

²*Institute of Cancer Therapeutics, Bradford University, West Yorkshire, UK*

³*Department of Medicinal Chemistry, Faculty of pharmacy, Elmergib University, Alkoms, Libya*

^{4,5}*Department of pharmaceutics, Faculty of pharmacy, Elmergib University, Alkoms, Libya*

Abstract

The major limitation of the currently used anticancer agents is narrow therapeutic indices due to the lack of their tumor-selective targeting and consequent off-target toxicity towards normal cells. Accordingly, improving the therapeutic indices, tumor selectivity and response of these agents are paramount. One class of anticancer chemotherapeutics is the vascular disrupting agents (VDAs). Disruption of tumor vasculature is efficient approach to induce blood vessel shutdown with consequent tumor shrinkage and necrosis. The clinical value of several VDAs is compromised by low therapeutic indices and systemic toxicities. One approach is to develop “Tumor-activated prodrugs, TAPs” of these potent VDAs by exploiting specific enzymes synthesized by tumor cells such as matrix metallic-proteinases (MMPs). This study describing the design and the cytotoxicity profile of novel MT1-MMP targeted peptide conjugate of VDA (ICT2588), which is designed to remain nontoxic until metabolized selectively in tumor microenvironment by MT1-MMP. Lead compound is composed of potent VDA of colchicine-binding agent (MB2) linked to specific peptide conjugate rationalized to be selectively metabolized by MT1-MMP which is highly expressed in different cancer cell lines. ICT2588 showed a remarkable cytotoxic effect against the MT1-MMP-positive HT1080 cancer cell line, effectively metabolized by different

tumor xenografts but not by normal tissues. Metabolism is further confirmed by blocking the activity MT1-MMP. MT1-MMP is unique tumor feature and can be utilized to activate masked anticancer prodrugs selectively in tumor microenvironment.

Keywords: Membrane-type matrix metalloproteinase, tumor-activated prodrugs

References

- [1] Hanahan D, Weinberg RA. Hallmarks of cancer: the next generation. *Cell*. 2011;144:646-74.
- [2] Blackburn EH. Telomeres and telomerase: their mechanisms of action and the effects of altering their functions. *FEBS Lett*. 2005; 579:859-62.
- [3] Bennisroune A, Fickova M, Gardin A, Dirrig-Grosch S, Aunis D, Crémel G, et al. Transmembrane peptides as inhibitors of ErbB receptor signaling. *Molecular Biology of the Cell*. 2004;15:3464-74.
- [4] Bergers G, Benjamin LE. Tumorigenesis and the angiogenic switch. *Nature Review Cancer*. 2003; 3:401-10.
- [5] Verweij J, de Jonge MJ. Achievements and future of chemotherapy. *European journal of cancer (Oxford, England: 1990)*. 2000; 36:1479-87.
- [6] Collins I, Workman P. New approaches to molecular cancer therapeutics. *Nature Chemical Biology*. 2006; 2:689-700.
- [7] Denny WA. Prodrug strategies in cancer therapy. *European Journal of Medicinal Chemistry*. 2001; 36:577-95.
- [8] John A, Tuszynski G. The role of matrix metalloproteinases in tumor angiogenesis and tumor metastasis. *Pathology & Oncology Research*. 2001; 7:14-23.
- [9] Curran S, Murray GI. Matrix metalloproteinases: molecular aspects of their roles in tumour invasion and metastasis. *European journal of cancer (Oxford, England: 1990)*. 2000; 36:1621-30.
- [10] Brinckerhoff CE, Rutter JL, Benbow U. Interstitial collagenases as markers of tumor progression. *Clinical Cancer Research*. 2000; 6:4823-30.
- [11] Egeblad M, Werb Z. New functions for the matrix metalloproteinases in cancer progression. *Nature Reviews Cancer*. 2002; 2:161-74.

- [12] Mitsiades N, Yu WH, Poulaki V, Tsokos M, Stamenkovic I. Matrix metalloproteinase-7-mediated cleavage of Fas ligand protects tumor cells from chemotherapeutic drug cytotoxicity. *Cancer research*. 2001; 61:577-81.
- [13] Bergers G, Brekken R, McMahon G, Vu TH, Itoh T, Tamaki K, et al. Matrix metalloproteinase-9 triggers the angiogenic switch during carcinogenesis. *Nature Cell Biology*. 2000; 2:737-44.
- [14] Kondraganti S, Mohanam S, Chintala SK, Kin Y, Jasti SL, Nirmala C, et al. Selective suppression of matrix metalloproteinase-9 in human glioblastoma cells by antisense gene transfer impairs glioblastoma cell invasion. *Cancer research*. 2000; 60:6851-5.
- [15] Atkinson JM, Siller CS, Gill JH. Tumour endoproteases: the cutting edge of cancer drug delivery? *British Journal of Pharmacology*. 2008; 153:1344-52.
- [16] Kratz F, Dreves J, Bing G, Stockmar C, Scheuermann K, Lazar P, et al. Development and in vitro efficacy of novel MMP2 and MMP9 specific doxorubicin albumin conjugates. *Bioorganic & medicinal chemistry letters*. 2001; 11:2001-6.
- [17] Van Valckenborgh E, Mincher D, Di Salvo A, Van Riet I, Young L, Van Camp B, et al. Targeting an MMP-9-activated prodrug to multiple myeloma-diseased bone marrow: a proof of principle in the 5T33MM mouse model. *Leukemia*. 2005; 19:1628-33.
- [18] Sato H, Kinoshita T, Takino T, Nakayama K, Seiki M. Activation of a recombinant membrane type 1-matrix metalloproteinase (MT1-MMP) by furin and its interaction with tissue inhibitor of metalloproteinases (TIMP)-2. *FEBS Lett*. 1996; 393:101-4.
- [19] Ohuchi E, Imai K, Fujii Y, Sato H, Seiki M, Okada Y. Membrane type 1 matrix metalloproteinase digests interstitial collagens and other extracellular matrix macromolecules. *Journal of Biological Chemistry*. 1997; 272:2446-51.
- [20] Koshikawa N, Giannelli G, Cirulli V, Miyazaki K, Quaranta V. Role of cell surface metalloprotease MT1-MMP in epithelial cell migration over laminin-5. *Journal of Cell Biology*. 2000;148:615-24.
- [21] Meers P. Enzyme-activated targeting of liposomes. *Advanced Drug Delivery Review*. 2001;53:265-72.
- [22] Turk BE, Huang LL, Piro ET, Cantley LC. Determination of protease cleavage site motifs using mixture-based oriented peptide libraries. *Nature Biotechnology*. 2001;19:661-7.

- [23] Kridel SJ, Sawai H, Ratnikov BI, Chen EI, Li W, Godzik A, et al. A unique substrate binding mode discriminates membrane type-1 matrix metalloproteinase from other matrix metalloproteinases. *Journal of Biological Chemistry*. 2002; 277:23788-93.
- [24] Kridel SJ, Chen E, Kotra LP, Howard EW, Mobashery S, Smith JW. Substrate hydrolysis by matrix metalloproteinase-9. *Journal of Biological Chemistry*. 2001; 276:20572-8.
- [25] Davis PD, Dougherty GJ, Blakey DC, Galbraith SM, Tozer GM, Holder AL, et al. ZD6126: a novel vascular-targeting agent that causes selective destruction of tumour vasculature. *Cancer research*. 2002; 62:7247-53.