

**Record 1 of 11**

**Title:** Anti-mutagenic and Anti-oxidant Potencies of *Cetraria Aculeata* (Schreb.) Fr., *Cladonia Chlorophaea* (Florke ex Sommerf.) Spreng. and *Cetrelia olivetorum* (Nyl.) W.L. Culb. & C.F. Culb.)

**Author(s):** Ceker, S (Ceker, Selcuk); Orhan, F (Orhan, Furkan); Sezen, S (Sezen, Selma); Gulluce, M (Gulluce, Medine); Ozkan, H (Ozkan, Hakan); Aslan, A (Aslan, Ali); Agar, G (Agar, Guleray)

**Source:** IRANIAN JOURNAL OF PHARMACEUTICAL RESEARCH **Volume:** 17 **Issue:** 1 **Pages:** 326-335 **Published:** WIN 2018

**Abstract:** In this study, the mutagenic and anti-mutagenic effects of methanol extract of three lichen species (*Cetraria aculeata*, *Cladonia chlorophaea* and *Cetrelia olivetorum*) were investigated by using *E. coli*-WP2, Ames-Salmonella (TA1535 and TA1537) and sister chromatid exchange (SCE) test systems. The results obtained from bacterial test systems demonstrated that methanol extracts of three lichen species have strong anti-mutagenic potencies on TA1535, TA1537 strains and to a lesser extent on *E. coli*-WP2 strain. The anti-oxidant level of human lymphocytes cells was determined in order to clarify the mechanism underlying the anti-mutagenic effects of these lichen species. Co-treatments of 5, 10 and 20  $\mu\text{g/mL}$  concentrations of these three lichen species with AFB decreased the frequencies of SCE and the level of MDA and increased the amount of SOD, GSH and GPx which decreased by aflatoxin. The findings of this work have clearly demonstrated that *Cetraria aculeata*, *Cladonia chlorophaea* and *Cetrelia olivetorum* have significant anti-mutagenic effects which are thought to be partly due to the anti-oxidant activities and the interaction capability of lichen extracts with mutagen agents (Sodium azide, acridin, N-methyl-N'-nitro-N-nitrosoguanidine and aflatoxin B-1).

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**PubMed ID:** 29755563

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**ISSN:** 1735-0328

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**Record 2 of 11**

**Title:** Synthesis, characterization and crystal structure of 2-(4-hydroxyphenyl)ethyl and 2-(4-nitrophenyl)ethyl Substituted Benzimidazole Bromide Salts: Their inhibitory properties against carbonic anhydrase and acetylcholinesterase

**Author(s):** Behcet, A (Behcet, Ayten); Cagllilar, T (Cagllilar, Tuba); Celepci, DB (Celepci, Duygu Barut); Aktas, A (Aktas, Aydin); Taslimi, P (Taslimi, Parham); Gok, Y (Gok, Yetkin); Aygun, M (Aygun, Muhittin); Kaya, R (Kaya, Ruya); Gulcin, I (Gulcin, Ilhami)

**Source:** JOURNAL OF MOLECULAR STRUCTURE **Volume:** 1170 **Pages:** 160-169 **DOI:** 10.1016/j.molstruc.2018.05.077 **Published:** OCT 15 2018

**Abstract:** This paper reports the synthesis of 2-(4-hydroxyphenyl)ethyl and 2-(4-nitrophenyl)ethyl substituted benzimidazolium salts. The benzimidazolium salts were synthesized by N-substituted benzimidazolium and aryl halides. The 2-(4-hydroxyphenyl)ethyl and 2-(4-nitrophenyl)ethyl substituted benzimidazolium salts were characterized by using H-1 NMR, C-13 NMR, FT-IR spectroscopy and elemental analysis techniques. Molecular and crystal structure of the complex 2d and 3d were obtained by single-crystal X-ray diffraction method. Additionally, The enzyme inhibition activities of the benzimidazolium salts were investigated. These 2-(4-hydroxyphenyl)ethyl and 2-(4-nitrophenyl)ethyl substituted benzimidazolium salts (1, 2a-g, and 3a-f) showed good inhibitory action against acetylcholinesterase (AChE), and human (h) carbonic anhydrase (CA) isoforms I, and II. Ki values for AChE were in range of 5.97 +/- 0.56 -23.15 +/- 3.98 nM. On the other hand, the hCA I, and II isoenzymes were effectively inhibited by these compounds, with K-i values in the range of 17.33 +/- 4.55-99.23 +/- 44.91 nM for hCA I, and 33.98 +/- 3.43 -113.23 +/- 39.31 nM for hCA II, respectively. (C) 2018 Elsevier B.V. All rights reserved.

**Accession Number:** WOS:000437071000018

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**ISSN:** 0022-2860

**eISSN:** 1872-8014

**Record 3 of 11**

**Title:** A study on the optical, chemical and dielectric properties of PPCIN thin films derived from essential oil compounds using RF plasma polymerisation technique

**Author(s):** Bayram, O (Bayram, Ozkan); Simsek, O (Simsek, Onder)

**Source:** VACUUM **Volume:** 156 **Pages:** 198-204 **DOI:** 10.1016/j.vacuum.2018.07.032 **Published:** OCT 2018

**Abstract:** Polymer-based nanostructured films were produced on various substrates using Radio Frequency (RF) plasma polymerization technique from Cinnatnaldehyde monomer which is an organic compound. To fabricate polymer thin film, the pressure, the deposition time and RF power were set to 480 mTorr, 30 min and 15, 20 and 30 W, respectively. The effect of RF power on the optical, morphological and chemical properties of thin films were investigated. The optical, morphological and chemical properties were determined by UV-Vis spectroscopy, Atomic Force Microscopy (AFM) and FTIR spectroscopy, respectively. The average surface roughness of thin films was detected as 5.7 nm, 3.9 nm and 11.7 nm using AFM depending on the increase in RF power. Using FTIR spectroscopy, the chemical structure of the polymer thin films was compared with that of the monomer material, and it was found that the majority of the functional groups belonging to the monomers also appeared in the thin films. Optical band gap of thin films increased with RF power and these values were determined as 2.83 eV, 3.05 eV and 2.98 eV, respectively. The extinction coefficients and refractive indices of the thin films were measured at 500 nm between 0.00183-0.00522 and 2.40-2.78, respectively.

**Accession Number:** WOS:000445980600026

**ISSN:** 0042-207X

**Record 4 of 11**

**Title:** Synthesis of novel sulfamides incorporating phenethylamines and determination of their inhibition profiles against some metabolic enzymes

**Author(s):** Aksu, K (Aksu, Kadir); Akincioglu, H (Akincioglu, Huelya); Akincioglu, A (Akincioglu, Akin); Goksu, S (Goeksu, Sueleyman); Tumer, F (Tuemer, Ferhan); Gulcin, I (Guelcin, Ilhami)

**Source:** ARCHIV DER PHARMAZIE **Volume:** 351 **Issue:** 9 **Article Number:** e1800150 **DOI:** 10.1002/ardp.201800150 **Published:** SEP 2018

**Abstract:** A series of sulfamides were synthesized and evaluated for their acetylcholinesterase (AChE), butyrylcholinesterase (BChE), and carbonic anhydrase

inhibition properties. The synthesis of sulfamides was achieved by the reactions of phenethylamines with N,N-dimethylsulfamoyl chloride in the presence of Et<sub>3</sub>N. The methoxylated sulfamides were converted into their phenolic derivatives with BBr<sub>3</sub> for structure-activity relationships. The synthesized sulfamide/phenolic sulfamide derivatives were investigated as cholinesterase inhibitors and their relative role in AChE versus BChE inhibition was defined. Sulfamide/phenolic sulfamide derivatives are known as important carbonic anhydrase inhibitors; therefore, the synthesized compounds were investigated for inhibitory effects on both carbonic anhydrase isoenzymes. Additionally, we evaluated four different enzymes, which were inhibited in the low nanomolar range by these compounds. According to the present studies, for AChE, BChE, and carbonic anhydrase I and II, the ranges of results are recorded as 0.027-0.076nM, 0.075-0.327nM, 0.123-0.678nM, and 0.024-0.688nM, respectively.

**Accession Number:** WOS:000443379600004

**PubMed ID:** 30074266

**Author Identifiers:**

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**ISSN:** 0365-6233

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#### Record 5 of 11

**Title:** Effect of doping concentration on the structural and optical properties of nanostructured Cu-doped Mn<sub>3</sub>O<sub>4</sub> films obtained by SILAR technique

**Author(s):** Bayram, O (Bayram, Ozkan); Guney, H (Guney, Harun); Ertargin, M (Ertargin, Mehmet Emrah); Igman, E (Igman, Erdal); Simsek, O (Simsek, Onder)

**Source:** APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING **Volume:** 124 **Issue:** 9 **Article Number:** 606 **DOI:** 10.1007/s00339-018-2031-5 **Published:** SEP 2018

**Abstract:** In this study, the effect of Cu doping on the optical, structural and wettability properties of the nanostructured Cu-doped Mn<sub>3</sub>O<sub>4</sub> (CMO) thin films obtained by using successive ionic layer adsorption and reaction technique was systematically investigated. The optical, morphological, structural and wettability properties of the nanostructured CMO films were determined using scanning electron microscopy (SEM), X-ray diffraction (XRD), UV-Vis spectroscopy, and water contact angle (WCA) measurements. There were significant differences in the crystal structure of the nanostructured CMO thin films. The Cu doping disrupted this structure of pure (undoped) Mn<sub>3</sub>O<sub>4</sub> films and caused the formation of the porous structure. Optical properties such as extinction coefficient, refractive index, and dielectric constants and optical band gap, were determined for nanostructured CMO films. Compared with pure films, the band gap of Cu-doped films decreased from 2.06 to 1.71 eV with increasing Cu concentration. The dielectric constants of the films showed that the nanostructured CMO films have a transparent structure. At 300 nm wavelength, the dielectric constants of pure Mn<sub>3</sub>O<sub>4</sub> films were 2.22 while the calculated dielectric constants at increasing doping concentrations were 3.55, 2.41 and 2.25. It was also found from the WCA measurements that the thin films were hydrophilic in character and the WCA values for the nanostructured CMO thin films were measured as 24, 29 and 40 of degree.

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#### Record 6 of 11

**Title:** The effect of Ag dopant on MgO nanocrystallites grown by SILAR method

**Author(s):** Guney, H (Guney, Harun); Iskenderoglu, D (Iskenderoglu, Demet)

**Source:** MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING **Volume:** 84 **Pages:** 151-156 **DOI:** 10.1016/j.mssp.2018.05.022 **Published:** SEP 2018

**Abstract:** The undoped and silver (Ag) doped magnesium oxide (MgO) nanocrystallites were synthesized by successive ionic layer adsorption reaction (SILAR) method. MgO and Ag-doped MgO nanocrystal samples have been investigated optical, structural and morphological properties by XRD (X-ray diffraction), UV-vis spectroscopy, SEM (scanning electron microscope), XPS (X-ray photon spectroscopy) and PL (photoluminescence) measurements. XRD measurements of undoped and Ag-doped MgO nanocrystallites samples revealed that samples were the cubic structures and have planes of (200), and (220). The crystal size of the samples decreased from 22.83 nm to 14.42 nm with increasing the Ag-dopant content. It has been observed that the surface morphologies of the samples changed significantly with the amount of Ag-dopant. The bandgaps of samples were changed between 4.27 eV and 4.41 eV. PL measurements of the MgO and Ag-doped MgO nanocrystal samples in the visible region were showed three emissions which are around 380 nm (3.26 eV) in the violet region, around 456 nm in the blue region (2.72 eV) and around 535 nm in the green region (2.32 eV). It was observed that increased of defect density and decreased of crystalite size of samples with increasing of Ag-dopant amount.

**Accession Number:** WOS:000434399500022

**ISSN:** 1369-8001

**eISSN:** 1873-4081

#### Record 7 of 11

**Title:** Characterization of MgO: Cd thin films grown by SILAR method

**Author(s):** Guney, H (Guney, Harun); Iskenderoglu, D (Iskenderoglu, Demet)

**Source:** CANADIAN JOURNAL OF PHYSICS **Volume:** 96 **Issue:** 7 **Special Issue:** SI **Pages:** 804-809 **DOI:** 10.1139/cjp-2017-0767 **Published:** JUL 2018

**Abstract:** The undoped and 1%, 2%, and 3% Cd-doped MgO nanostructures were grown by SILAR method on the soda lime glass substrate. X-ray diffractometer (XRD), ultraviolet-visible spectrometer, scanning electron microscope, photoluminescence (PL), and X-ray photoelectron spectroscopy measurements were taken to investigate Cd doping effects on the structural, optical, and morphological properties of MgO nanostructures. XRD measurements show that the samples have cubic structure and planes of (200), (220) of MgO and (111), (200), and (220) of CdO. It was observed that band gaps increase with rising Cd doping rate in MgO thin film. The surface morphology of samples demonstrates that MgO nanostructures have been affected by the Cd doping. PL measurements show that undoped and Cd-doped MgO thin films can radiate in the visible emission region.

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**Conference Title:** 33rd International Physics Conference of Turkish-Physical-Society (TPS)

**Conference Date:** SEP 06-10, 2017

**Conference Location:** Konacik, TURKEY

**Conference Sponsors:** Turkish Phys Soc

**ISSN:** 0008-4204

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#### Record 8 of 11

**Title:** Effect of the number of cycles on the optical and structural properties of Mn<sub>3</sub>O<sub>4</sub> nanostructures obtained by SILAR technique

**Author(s):** Bayram, O (Bayram, Ozkan); Simsek, O (Simsek, Onder); Guney, H (Guney, Harun); Igman, E (Igman, Erdal); Ozer, MM (Ozer, Mustafa Murat)

**Source:** JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS **Volume:** 29 **Issue:** 12 **Pages:** 10542-10549 **DOI:** 10.1007/s10854-018-9118-

9 **Published:** JUN 2018

**Abstract:** In this study, nanostructured Mn<sub>3</sub>O<sub>4</sub> (manganese oxide) thin films were successfully obtained by successive ionic layer adsorption and reaction (SILAR) method on the soda lime glass substrates using Manganese Nitrate (Mn(NO<sub>3</sub>)<sub>2</sub>) and Ammonium hydroxide (NH<sub>4</sub>(OH)) as cationic and anionic precursors respectively. Structural and morphological characterizations of the Mn<sub>3</sub>O<sub>4</sub> films obtained at different cycles were determined using X-ray diffraction (XRD) and Scanning Electron Microscopy (SEM). The crystal structure of the thin films were also confirmed by RAMAN spectroscopy. Optical properties such as absorption, transmission, reflection, extinction coefficient and optical band gap of nanostructured Mn<sub>3</sub>O<sub>4</sub> thin films were determined by UV-Vis spectroscopy. SEM images showed that the manganese oxide nanosheets formed uniformly on substrate surface. As the deposition cycles increased, nano-sheets structure deteriorated. The optical band gap of Mn<sub>3</sub>O<sub>4</sub> thin films varied from 2.12 to 2.59 eV, depending on the increase in number of cycles. From contact angle measurements of thin films, it was determined that thin films had hydrophilic character.

**Accession Number:** WOS:000433031400086**ISSN:** 0957-4522**eISSN:** 1573-482X**Record 9 of 11****Title:** Synthesis and characterization of Zn-doped Mn<sub>3</sub>O<sub>4</sub> thin films using successive ionic layer adsorption and reaction technique: Its structural, optical and wettability properties**Author(s):** Bayram, O (Bayram, Ozkan); Ertargin, ME (Ertargin, Mehmet Emrah); Igman, E (Igman, Erdal); Guney, H (Guney, Harun); Simsek, O (Simsek, Onder)**Source:** JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS **Volume:** 29 **Issue:** 11 **Pages:** 9466-9473 **DOI:** 10.1007/s10854-018-8980-**9 Published:** JUN 2018

**Abstract:** In this study, it is aimed to obtain Zn doped Mn<sub>3</sub>O<sub>4</sub> (manganese oxide) nanostructured thin films on the soda lime glass substrates by successive ionic layer adsorption and reaction technique. The tetragonal crystal structure of the all thin films was detected using XRD spectroscopy. The average crystallite size of undoped Mn<sub>3</sub>O<sub>4</sub> thin films was calculated to be 29 nm and for Zn-doped thin films, this value decreased to 23 nm with increasing Zn concentration. Characteristic peaks for thin films were also confirmed by RAMAN spectroscopy. The morphological structures of zinc-doped manganese oxide nano-sheets thin films were revealed by SEM. Using UV-Vis spectroscopy, it was found that the optical band gap of Mn<sub>3</sub>O<sub>4</sub> thin films decreased from 2.05 to 1.73 eV with Zn doping. It has also been understood from the wettability analyzes of thin films that all thin films have a hydrophilic character. From all these analyzes, it is thought that the Zn doped Mn<sub>3</sub>O<sub>4</sub> thin films have the potential to be used in supercapacitor applications.

**Accession Number:** WOS:000432326800070**Author Identifiers:**

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**ISSN:** 0957-4522**eISSN:** 1573-482X**Record 10 of 11****Title:** Synthesis of MgO thin films grown by SILAR technique**Author(s):** Guney, H (Guney, Harun); Iskenderoglu, D (Iskenderoglu, Demet)**Source:** CERAMICS INTERNATIONAL **Volume:** 44 **Issue:** 7 **Pages:** 7788-7793 **DOI:** 10.1016/j.ceramint.2018.01.210 **Published:** MAY 2018

**Abstract:** Different thickness MgO thin films were grown on the glass substrate by successive ionic layer adsorption and reaction (SILAR) method as the first study in literature. X-ray diffraction (XRD) measurements demonstrate the cubic MgO structures and samples have (002), and (220) peaks. All film has nanoball structures observed from the scanning electron microscope (SEM) images. The band gap and transmittance values of MgO thin films decrease with increasing thickness. The photoluminescence (PL) spectrum demonstrates that samples have three visible emissions changing with thickness at 381 nm violet emission, 457 nm blue emission and 535 nm green emission. X-ray photoelectron spectroscopy (XPS) spectrum present confirms the elemental signals from carbon (C), oxygen (O) and magnesium (Mg) atoms in the sample. Both Moss and Herve and Vandamme relations refractive index values n, epsilon(0), and epsilon(infinity) values and amount of oxygen increase with raising thickness of MgO thin films.

**Accession Number:** WOS:000428974300055**Author Identifiers:**

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**ISSN:** 0272-8842**eISSN:** 1873-3956**Record 11 of 11****Title:** Synthesis and discovery of potent carbonic anhydrase, acetylcholinesterase, butyrylcholinesterase, and alpha-glycosidase enzymes inhibitors: The novel N,N'-bis-cyanomethylamine and alkoxymethylamine derivatives**Author(s):** Taslimi, P (Taslimi, Parham); Caglayan, C (Caglayan, Cuneyt); Farzaliyev, V (Farzaliyev, Vagif); Nabiye, O (Nabiye, Oruj); Sujayev, A (Sujayev, Afsun); Turkan, F (Turkan, Fikret); Kaya, R (Kaya, Ruya); Gulcin, I (Gulcin, Ilhami)**Source:** JOURNAL OF BIOCHEMICAL AND MOLECULAR TOXICOLOGY **Volume:** 32 **Issue:** 4 **Article Number:** e22042 **DOI:** 10.1002/jbt.22042 **Published:** APR 2018

**Abstract:** During this investigation, N,N'-bis-azidomethylamines, N,N'-bis-cyanomethylamine, new alkoxymethylamine and chiral derivatives, which are considered to be a new generation of multifunctional compounds, were synthesized, functional properties were investigated, and anticholinergic and antidiabetic properties of those compounds were studied through the laboratory tests, and it was approved that they contain physiologically active compounds rather than analogues. Novel N-bis-cyanomethylamine and alkoxymethylamine derivatives were effective inhibitors of the alpha-glycosidase, cytosolic carbonic anhydrase I and II isoforms, butyrylcholinesterase (BChE), and acetylcholinesterase (AChE) with K<sub>i</sub> values in the range of 0.15-13.31 nM for alpha-glycosidase, 2.77-15.30 nM for human carbonic anhydrase isoenzymes I (hCA I), 3.12-21.90 nM for human carbonic anhydrase isoenzymes II (hCA II), 23.33-73.23 nM for AChE, and 3.84-48.41 nM for BChE, respectively. Indeed, the inhibition of these metabolic enzymes has been considered as a promising factor for pharmacologic intervention in a diversity of disturbances.

**Accession Number:** WOS:000430391900001**PubMed ID:** 29457667**Author Identifiers:**

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