

BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan hasil penelitian dapat ditarik kesimpulan bahwa :

Pertama, senyawa dalam bunga mawar merah (*Rosa damascene* Mill) yang berpotensi sebagai antibakteri yaitu minyak atsiri, alkaloid, flavonoid, tanin, dan saponin.

Kedua, ekstrak dan fraksi bunga mawar merah (*Rosa damascena* Mill) memiliki aktivitas antibakteri terhadap bakteri *Staphylococcus aureus*.

Ketiga, fraksi etil asetat dari ekstrak bunga mawar merah (*Rosa damascena* Mill) merupakan yang paling aktif dalam aktivitas antibakteri.

B. Saran

Pertama, perlu dilakukan penelitian lebih lanjut untuk melakukan uji aktivitas antibakteri pada fraksi bunga mawar merah (*Rosa damascene* Mill) terhadap *Staphylococcus* sp.

Kedua, perlu dilakukan penelitian lebih lanjut untuk melakukan uji aktivitas antibakteri dari bunga mawar merah (*Rosa damascene* Mill) yang dikombinasi dengan tanaman lain terhadap *Staphylococcus* sp.

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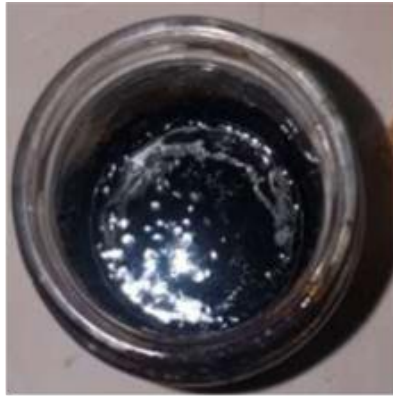
Lampiran 1. Tanaman bunga mawar merah (*Rosa damascena* Mill)

Tanaman bunga mawar merah



Lampiran 2. Ekstrak dan fraksi tanaman bunga mawar merah (*Rosa damascena* Mill)

Ekstrak



Fraksi n-heksan



Fraksi etil asetat



fraksi air



Lampiran 3. Alat penelitian

Evaporator



incubator



Lampiran 4. Uji bebas etanol dan identifikasi kandungan kimia bunga mawar merah (*Rosa damascena* Mill)

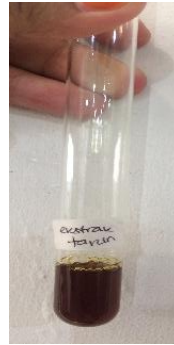
Alkaloid



Flavonoid



Tannin



Saponin



Lampiran 5. Hasil pencarian uji aktivitas antibakteri bunga mawar merah (*Rosa damascena* Mill)



Note: Antioxidant and antibacterial activities of *Rosa damascena* flower extracts

G Özkan, O Sagdiç, NG Baydar... - Food Science and ... - 2004 - journals.sagepub.com

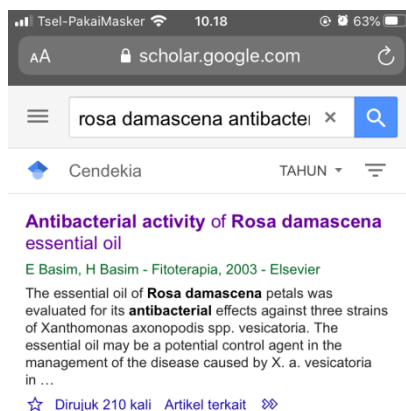
Rosa damascena Mill. is one of the most important *Rosa* species for the flavour and fragrance industries. The high amount of residues of spent flowers after steam distillation and the potential use of their essential oils as natural antioxidants and antimicrobials lead to ...

☆ Dirujuk 221 kali Artikel terkait

Antioxidant and hepatoprotective effects of *Rosa damascena*

CR Achuthan, BH Babu, J Padikkala - Pharmaceutical biology, 2003 - Taylor & Francis

The fresh juice of *Rosa damascena* Mill. flower exhibited promising in vitro antioxidant potential. The partially purified acetone fraction (AF) from silica gel column

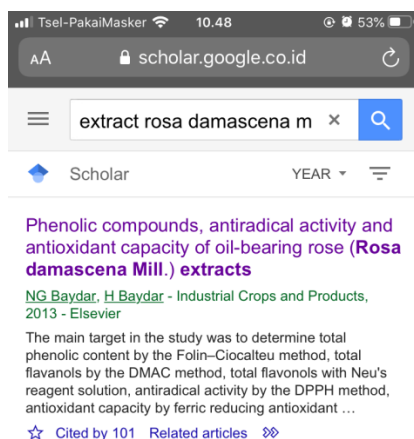


Note: Antioxidant and antibacterial activities of *Rosa damascena* flower extracts

G Özkan, O Sagdiç, NG Baydar... - Food Science and ... - 2004 - journals.sagepub.com

Rosa damascena Mill. is one of the most important *Rosa* species for the flavour and fragrance industries. The high amount of residues of spent flowers after steam distillation and the potential use of their essential oils as natural antioxidants and antimicrobials lead to ...

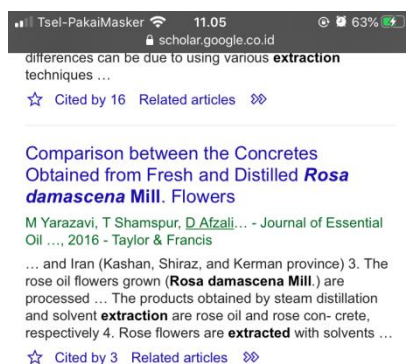
☆ Dirujuk 221 kali Artikel terkait



Inhibitory effect of methanol extract of *Rosa damascena* Mill. flowers on α -glucosidase activity and postprandial hyperglycemia in normal and diabetic rats

A Gholamhoseinian, H Fallah - Phytomedicine, 2009 - Elsevier

The effect of a methanol extract of *Rosa damascena* Mill. flowers was studied, in comparison to the α -glucosidase inhibitor acarbose, in normal and diabetic rats. The inhibition mode of this extract was examined by measuring enzyme activity in different concentrations of



Antimicrobial activity of *Rosa damascena* petals extracts and chemical composition by gas chromatography-mass spectrometry (GC/MS) analysis

EM Halawani - African Journal of Microbiology Research, 2014 - academicjournals.org

... kg of fresh flowers from each accession were used immediately for alcoholic and water extraction ... Table 2. Compounds determined in the oil of *Rosa damascena* extracted by hydro-distillation ... Effect of aqueous-ethanolic extract from *Rosa damascena* on guinea pig isolated heart ...

☆ Cited by 16 Related articles

Chemical variability of essential

Substrate promiscuity of RdCCD1, a carotenoid cleavage oxygenase from *Rosa damascena*

FC Huang, G Horváth, P Molnár, E Turcsi, J Deli... - Phytochemistry, 2009 - Elsevier

... of a potted rose plant (*R. damascena*, 50 cm high) using the CTAB **extraction** procedure (Liao ... Carotenoids and products were **extracted** from bacterial cells or growth medium as described (Schwartz et ... were grown at 16 °C for an additional 20 h. The crude **extract** was prepared ...

☆ Cited by 101 Related articles

Chemical Composition, Antioxidant Activity and Antimicrobial Effect of *Rosa damascena* Mill. Essential Oil Against *Staphylococcus aureus*, *Escherichia coli* and ...

P Kheirkhahan, M Ghavami, A Sharifan - Journal of Food ..., 2020 - jfbt.srbiau.ac.ir

... latitude and altitude), planting and harvesting time and **extraction** system (Behbahani ... was **extracted** by hydrodistillation method and the fractions were analyzed and identified ... Effects of Damask Rose (*Rosa damascena* Mill.) **Extract** on chemical, microbial, and sensory properties ...

☆

Application of a Supercritical CO₂ Extraction Procedure to Recover Volatile Compounds and Polyphenols from *Rosa damascena*

C Da Porto, D Decorti, A Natolino - Separation Science

damascena flower extracts

G Özkan, O Sagdic, N G Baydar... - Food Science and ..., 2004 - journals.sagepub.com

... Preparation of the Plant **Extract** Preparation of the **extracts** was done according to a combination of the methods used by Pizzale et al ... About 15g of dried flower materials were **extracted** with 150mL methanol (Merck, extra pure) for 1min using an Ultra Turax mixer (13,000rpm ...

☆ Cited by 221 Related articles

Antibacterial and antifungal activity of *Rosa damascena* MILL. essential oil, different **extracts** of rose petals

M Shohayeb, ESS Abdel-Hameed, SA Bazaid... - Global Journal of ..., 2014 - nativerose.cl

Rosa damascena petals were **extracted** by water, hexane and ethanol. The latter was further fractionated with chloroform, ethyl acetate and butanol. Rose oil and different petal **extracts** were evaluated against three fungi and eleven Gram-positive, Gram-negative and acid-fast ...

☆ Cited by 50 Related articles

Heat stability of strawberry anthocyanins in model solutions containing natural copigments **extracted** from rose (*Rosa damascena* Mill.) petals

V Shikov, DR Kammerer, K Mihalev... - Journal of agricultural ..., 2008 - ACS Publications

Thermal degradation and color changes of purified strawberry anthocyanins in model solutions were studied ...

Biogenesis of alkanes in the flowers of the essential oil rose (*Rosa damascena* Mill.)

N Marekov, B Stoianova-Ivanova, L Mondeshky... - Phytochemistry, 1968 - Elsevier

... Consequently, Ivanoff and co-workers⁸ examined the unsaturated hydrocarbon pattern in waxes (light petroleum **extracts**) from *R* ... The lipids were **extracted** from the rose flowers with light petroleum, and after purification from oxygen- containing ... Light Petroleum **extract** (g) Wax (g ...

☆ Cited by 3 Related articles

Antioxidant, Antibacterial Activities and GC-MS Analysis of Fresh Rose Petals Aqueous **Extract** of *Rosa damascena* Mill L.

C Sivaraj, R Abhirami, M Deepika... - Journal of Drug ..., 2019 - jddtonline.info

A rose (*Rosa damascena*) is a woody perennial plant of the genus *Rosa* within the family Rosaceae. The leaves of the plant are alternate to each other on the stem. Best known for its ornamental values, most of the rose plants are deciduous except a few from the South East ...

☆ Related articles

EXTRACTION AND SEPARATION OF SEDATIVE COMPOUNDS FROM PETALS OF *ROSA DAMASCENA* MILL.

SM Seyed, H Rakhshandeh, H Sadeghian - 2006 - sid.ir

In this research, the **extraction** and separation of sedative compounds of *Rosa damascena* Mill (from Rosaceae ...

Essential Oil Chemical Diversity of Forty-Four *Rosa damascena* Accessions from Iran

A Karami, M Khosh-Khui, H Salehi... - Journal of Essential ..., 2014 - Taylor & Francis

... **Extraction** of essential oils The essential oil of collected flowers at full bloom stage ... The **extracted** oils were dried over anhydrous sodium sulphate and stored in sealed vials at ... Table 1. Essential oil comparisons from different chemotypes of *Rosa damascena* accessions from Iran ...

☆ Cited by 4 Related articles

In vitro antibacterial potential of *Rosa damascena* and *Terminalia chebula* against bacterial peritonitis

WA El-Shouny, SS Ali... - Glob J Biol Agric Health ..., 2016 - researchgate.net

... *Rosa damascena* and *Terminalia chebula* were **extracted** using different solvents (Methanol and acetone) and were ... and FT-IR analyses were carried out for the *T. chebula* acetone **extract** as the ... into powder using a blender; 20 g of each plant powder were taken for **extraction** ...

☆ Cited by 3 Related articles

Dietary *Rosa damascena* protects against UVB-induced skin aging by improving collagen synthesis via MMPs reduction through alterations of c-Jun and c-Fos and ...

B Park, E Hwang, SA Seo, M Zhang, SY Park... - Journal

The image displays two side-by-side screenshots of a mobile browser interface, likely Google Scholar, showing search results for two different queries.

Left Screenshot (Search: review jurnal farmasi):

- Search Bar:** Contains the text "review jurnal farmasi".
- Navigation:** Includes a menu icon, "Scholar", a "YEAR" dropdown, and a list icon.
- Tip:** "Tip: Search for **English** results only. You can specify your search language in Scholar Settings."
- Result 1:**
 - Title:** Ko-Kristal di Bidang Farmasi: review jurnal [PDF] unpad.ac.id
 - Source:** I Sopyan, M Abdassah - Farmaka, 2016 - journal.unpad.ac.id
 - Abstract:** Abstrak Active Pharmaceutical Ingredients (APIs) are developing rapidly, one of the recent development is cocrystal. Cocrystal is a crystalline structure composed of multicomponent, such as atom, ion, or molecule, that are bonded by non-covalent bond. Cocrystal is solid at ...
 - Actions:** ☆ Cited by 1 Related articles 🔗
- Result 2:**
 - Title:** Review Jurnal: Potensi Spons Laut Sebagai Anti Kanker Payudara [PDF] jurnal-pharmaconmw.com
 - Source:** A Fristiohady, LA Haruna - Jurnal Mandala Pharmacon ..., 2020 - jurnal-pharmaconmw.com
 - Abstract:** ... baru. Spons mewakili salah satu sumber senyawa bioaktif laut yang paling menjanjikan terutama untuk bidang farmasi dalam pengobatan kanker payudara. Penulisan

Right Screenshot (Search: identifikasi minyak atsiri bu):

- Search Bar:** Contains the text "identifikasi minyak atsiri bu".
- Navigation:** Includes a menu icon, "Cendekia", a "TAHUN" dropdown, and a list icon.
- Result 1:**
 - Title:** UJI SIFAT FISIKA-KIMIA DAN IDENTIFIKASI FENIL ETIL ALKOHOL MINYAK ATSIRI BUNGA MAWAR HASIL EKSTRAKSI PELARUT [PDF] ejournalunb.ac.id
 - Source:** N Malasari, RTM Sutamihardja... - Jurnal Sains Natural, 2019 - ejournalunb.ac.id
 - Abstract:** The technology of extraction of roses oil currently is developed in small scale industries through distillation. However, this technology has many disadvantages. To overcome these obstacles, it is necessary to do research by using solvent extraction vapor (solvent ...)
 - Actions:** ☆ Artikel terkait 🔗
- Result 2:**
 - Title:** [B] Minyak Atsiri Bunga Indonesia
 - Source:** TS Julianto - 2016 - books.google.com
 - Abstract:** ... Indonesia Page 2. MINYAKATSIRI BUNGAINDONESIA Page 3 ... Dari hasil identifikasi komponen senyawa kimia menggunakan kromatografi gas-spektroskopi massa diduga bahwa komponen utama dalam minyak atsiri bunga kenanga asal Bogor ialah β ...
 - Actions:** ☆ Dirujuk 14 kali Artikel terkait 🔗

The bottom of the image shows the mobile browser's navigation bar with icons for back, forward, home, and tabs.

**Lampiran 6. Hasil perhitungan rendemen simplisia bunga mawar merah
(*Rosa damascena* Mill)**

Bobot basah (g)	Bobot kering (g)	Rendemen (%b/b)
11000	2400	21,818%

$$\text{Rendemen serbuk} = \frac{\text{bobot kering (g)}}{\text{bobot basah (g)}} \times 100\%$$

$$= \frac{2400 \text{ g}}{11000 \text{ g}} \times 100\%$$

$$= 21,818 \%$$

Lampiran 7. Perhitungan persen rendemen hasil ekstrak, fraksi *n*-heksan, etil asetat dan air dari bunga mawar merah (*Rosa damascena* Mill)

Serbuk bunga mawar (g)	Ekstrak kental (g)	Rendemen (%b/b)
500	100	20%

$$\text{Rendemen ekstrak} = \frac{\text{ekstrak kental (g)}}{\text{serbuk bunga (g)}} \times 100\%$$

$$= \frac{100 \text{ g}}{500 \text{ g}} \times 100\%$$

$$= 20 \%$$

Pelarut	Bobot wadah + fraksi (g)	Bobot wadah + kosong (g)	Bobot fraksi (g)	Rendemen %
<i>n</i> -Heksan	149,35	145	4,35	14,50
Etil asetat	145,62	139	3,52	11,73
Air	169,45	165	4,45	14,83

$$\text{Rendemen fraksi } n\text{-Heksna} = \frac{\text{bobot fraksi (g)}}{\text{bobot ekstrak (g)}} \times 100\%$$

$$= \frac{4,35 \text{ g}}{30 \text{ g}} \times 100\%$$

$$= 14,50 \%$$

$$\text{Rendemen fraksi etil asetat} = \frac{\text{bobot fraksi (g)}}{\text{bobot ekstrak (g)}} \times 100\%$$

$$= \frac{3,52 \text{ g}}{30 \text{ g}} \times 100\%$$

$$= 11,73 \%$$

$$\text{Rendemen fraksi air} = \frac{\text{bobot fraksi (g)}}{\text{bobot ekstrak (g)}} \times 100\%$$

$$= \frac{4,45 \text{ g}}{30 \text{ g}} \times 100\%$$

$$= 14,83 \%$$