

Conclusion: All synthesized compounds have favorable ADMET parameters, except for compound **4A**, which is probably moderately distributed in the brain and does not cross the blood-brain barrier. The obtained data indicate the prospects for further study of the tested substances by experimental methods.

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Arnica as a promising raw material for the creation of homeopathic dosage forms

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Asteraceae is one of the largest flowering plant family containing about 1600 genera and more than 23 000 species and 13 subfamilies. The plants of this family grow as annual and perennial herbs and shrubs, vines or trees in forests to high-altitude grasslands. Medicinally important compounds for curing various ailments are found in some genera, e.g. species of *Arnica*, *Centaurea granatensis* Boiss., *Conyzabonariensis* and *Seneciodoronicum*, which are reported for the treatment of variety of diseases.

Arnica montana (Asteraceae) is a high-altitude perennial plant indigenous to mountain slopes in Europe, northern Asia, Siberia and America also known as fall-kraut, leopard's bane, sneezewort and mountain tobacco and had proved to be an important medicinal plant. This plant is used since centuries in homoeopathic system of medicine for the treatment about 60 different pathological conditions. The flowers of the plant show greater medicinal value and are used as antiphlogistic, inotropic, antibiotic, anti-inflammatory, immunomodulatory, antiplatelet, uterotonic, antirheumatic and analgesic in febrile conditions. Both oral administration of flowers in the form of fresh plant

mother tincture and topical external application in the form of cream, ointment, but frequently used for contusion, wounds, rheumatism and inflammation.

Haemorrhoids are a disease resulting from circulatory disorders in the vessels of the haemorrhoidal plexuses of the lower rectum, which is accompanied by varicose veins and vein thrombosis and is often complicated by bleeding. Haemorrhoids are classified by origin as primary and secondary, by localization - as internal, external and mixed, along the course - as acute and chronic. Regardless of the characteristics of the initial status of the patient, pharmacotherapy of haemorrhoids is primarily aimed at eliminating symptoms characteristic of the acute course of the disease: bleeding from the rectum, discomfort, itching, pain and burning sensation in the anus.

Therapy consists of the use of topical and systemic agents. Topical agents on the pharmaceutical market are widely represented in the form of ointments, emulsions, rectal suppositories and solutions for the preparation of baths that contain analgesic, anti-inflammatory, thrombolytic and haemostatic components, enzymes, etc. Exclusively local therapy is not always effective, therefore it must be combined with phlebo- and lymphotropic drugs. The use of drugs in the form of suppositories is advisable in the case of internal haemorrhoids.

Homeopathic medicines for haemorrhoids are in demand because they have such advantages as: natural origin of the components; small doses of the active substance and no side effects; availability of some drugs; the manifestation of allergies is impossible, good tolerance.

The activity of the active pharmaceutical ingredient, its release from the dosage form and absorption are closely dependent on pharmaceutical factors, such as, excipients. Thanks to biopharmaceutical investigations, it was found that excipients can enhance, reduce, change the nature of the action of medicinal substances. The purpose of our investigation is the preparation of the rectal suppositories with Arnica tincture using of the different bases and emulsifiers, which are widely applied in modern technology of drugs. Suppositories were made by pouring a molten mass into molds made of polyvinyl chloride film with a mass 1.5 g. Obtained samples of suppositories have been analysed using the organoleptic, physical and chemical methods.

Application potential of crude drug of shrubby alder (*Duschekia fruticosa* (Rupr.) Pouzar) in Altai Krai and Republic of Altai (Russia)

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Species of the genus *Duschekia* Opiz and shrub alder (*Duschekia fruticosa* (Rupr.) Pouzar) in particular are promising sources of polyphenolic compounds and substances with antimicrobial, anti-inflammatory, immune stimulating and diuretic effects. They are widely used in folk medicine as hemostatic, wound healing, anti-inflammatory and other agents (Budantsev & Lesiovskaya, 2001; Golovkin et al., 2001-2002). An integrated pharmacognostic study of the bark, leaves and infructescences of *D. fruticosa* showed the presence of tannins, derivatives of benzoic and hydroxycinnamic acids, coumarins, flavonoids, ellagotannins, amino acids, fatty acids, carbohydrates and trace elements. 19 substances were isolated in the individual state: derivatives of benzoic (3) and hydroxycinnamic (5) acids, and benzo- α -pyrone (3); flavonoids (4) and ellagotannins (4). The largest