

ANTHRACENE

1. Buckthorn bark contains anthraquinones. When the harvested bark can be used?

- A** * In 1 year after harvesting
- B** Freshly harvested
- C** In 1 month after harvesting
- D** Immediately after drying
- E** In 6 months after harvesting

2. Horse sorrel roots are collected in a certain vegetation period. Choose it:

- A** * After ripening of seeds and disappearing of the aerial part
- B** In the phase of blossoming
- C** At the period of unripe fruit
- D** In the phase of bud formation
- E** In the phase of stem formation

3. The medicinal raw material of *Rhamnus cathartica* is used as a laxative. An impermissible admixture to common buckthorn fruits are fruits, which have emetic action:

- A** * Alder buckthorn fruits
- B** Rhineberry leaves
- C** Buckthorn bark
- D** Rhineberry flowers
- E** Rhineberry bark

4. Which poisonous fruits are able to cause vomiting and cannot be an admixture for the Common buckthorn plant material?

- A** * Alder buckthorn fruits
- B** Hawthorn
- C** Black chokeberry
- D** Whortleberry
- E** Schizandra

5. Whortleberry fruits are used in medicine as an astringent and anti-inflammatory agent. An admixture for this raw material is:

- A** * Buckthorn fruits
- B** Dog rose fruits
- C** Hawthorn fruits
- D** Mountain ash fruits
- E** Viburnum fruits

6. The medicinal plant material of *Rhamnus cathartica* is used as a purgative agent. Choose the medical plant material of this plant

- A** * Fruits
- B** Leaves
- C** Bark
- D** Roots
- E** Shoots

7. At the macroscopic analysis of a MRM such diagnostic features were detected: the pieces of bark are tubular or channeled, the external surface of bark is smooth, darkly brown, often with whitish transversal prolate lenticels; at peeling the outer cork layer off a red-coloured layer is visible; the inner surface is smooth, reddish-brown. The pharmaceutical chemist made a conclusion that the MRM is:

- A** * Common buckthorn bark
- B** High cranberry bark
- C** Oak bark
- D** Willow bark
- E** Hazel bark

8. Fruits are juicy, black, berry-like drupes of 6-8 mm in diameter, have 3-4 seeds of various forms. They are often included to purgative medicinal herbal tea. The raw material is:

- A** * Common buckthorn fruits
- B** Olive fruits
- C** Bird cherry fruits
- D** Schizandra fruits
- E** Hawthorn fruits

9. At microscopic analysis of transversal cross section through a piece of bark the presence of wide dark-red cork layer, tangential collenchyma, druses, bast fibres, with the crystalliferous bundle sheath were detected. The diagnosed MRM is:

- A** * Alder buckthorn bark
- B** Birch bark
- C** Common buckthorn bark
- D** Willow bark
- E** Manna Ash bark

10. Anthracene derivatives of emodin group show purgative effect. Specify, which raw material can a pharmacist recommend as a purgative:

- A** * Rhineberry (common buckthorn) fruits
- B** Elder fruits
- C** Blackberry fruits
- D** Whortleberry fruits
- E** Alder buckthorn fruits

11. Usage of Senna leaves is not recommended for pregnant and breastfeeding women, because this raw material has purgative effect, conditioned by such biologically active agents:

A * Anthracene derivatives

B Tannins

C Iridoids

D Coumarins

E Phenolic glycosides

12. Medicines of horse sorrel roots have both purgative and astringent effects. It is conditioned by the presence of such biologically active agents:

A * Anthracene derivatives and tannins

B Flavonoids and essential oils

C Essential and fatty oils

D Coumarins and phenolic glycosides

E Iridoids and vitamins

13. In case of urolithiasis treatment by preparation of madder rhizomes and roots, coloring of urine and sweat into red color is possible, that is conditioned by such class of active agents in this raw material:

A * Anthracene derivatives

B Flavonoids

C Alkaloids

D Tannins

E Terpenes

14. Senna leaves are used as a purgative. Extract and decoction of this raw material must be filtered after cooling to prevent its pollution by such irritating matters:

A * Resinous substances

B Tannins

C Phenolic substances

D Vitamins

E Bitter substances

15. Party of medicinal raw material of senna leaves was received by a pharmacy warehouse. Content of which active agents is the characteristic of quality according to the requirements of Pharmacopoeia:

A * Anthracene derivatives

B Tannins

C Flavonoids

D Coumarins

E Extracted matter

16. The batch of the crude drug was received by a pharmacy without analytical certificate. The red color formed under the action of potassium hydroxide solution lets us admit that it's:

- A** * Cortex Frangulae
- B** Cortex Quercus
- C** Cortex Salicis
- D** Cortex Viburni
- E** Cortex Quillajae

17. To identify senna leaves pharmacist- analyst carried out the quality reaction with 10% sodium hydroxide solution (red color appeared). What group of biologically active substances is present in the crude drug?

- A** * Anthracene derivatives
- B** Alkaloids
- C** Fatty oils
- D** Tannins
- E** Mucilage

18. If the internal surface of alder buckthorn rind is moistened with 5% alkaline solution, it gains cherry-red colouring. This is the evidence of the following substances presence:

- A** * Anthracene derivatives
- B** Alkaloids
- C** Saponins
- D** Flavonoids
- E** Tannins

19. Alder buckthorn bark contains anthracene derivatives. Which qualitative reaction confirms its presence in the raw material?

- A** * Reaction with alkali solution
- B** Reaction with Dragendorff's reagent
- C** Reaction with iron alum solution
- D** Reaction with iron sulfate
- E** Reaction with Fehling's reagent

20. Rhizomes and roots of dyer's-madder contain alizarin and have nephrolytic activity. Which class of biologically active substances does this compound belong to?

- A** * Anthracene derivatives
- B** Saponins
- C** Flavonoids
- D** Alkaloids
- E** Hydrocarbons

21. Alder buckthorn bark is used as a purgative drug. Alkaline solution was added to

alder buckthorn bark. Red colour appeared that confirmed the presence of:

A * Anthracene derivatives

B Saponins

C Tannins

D Flavonoids

E Phenolic alcohols

22. Alder buckthorn bark is used as a purgative drug. Choose the term of alder buckthorn bark collection:

A * In spring, in the period of sap movement

B In a period of total ripening of the fruits

C In winter

D In a period of leaves appearance

E In autumn

23. Adaptation to the herbal raw material containing anthracene derivatives appear in case of the following MRM prescription:

A * Senna leaves

B Aloë leaves

C Dyer's-madder roots

D Peppermint leaves

E Melissa leaves

24. The main active components of senna leaves and fruits are sennosides A, B, C, D. They relate to the following class of biologically active substances:

A * Anthracene derivatives

B Phenolic acids

C Flavonoids

D Iridoids

E Thioglycosides

25. What effect will anthracene derivatives have, if -OH- groups are located in both benzene rings of anthraquinone?

A * Laxative

B Sedative

C Choleric

D Diuretic

E Litholytic

26. *Proper harvesting of Frangula alnus herbal raw material greatly influences the quality and quantity of its active substances. Therefore, the optimal time for Frangula alnus bark harvesting is the period of:*

A * Sap flow

- B Dormancy*
- C Flowering*
- D Defoliation*
- E Fruiting*

27. *In the process of phytochemical examination of Cortex Frangulae, the reaction with alkaline solution resulted in red coloring, which indicates the presence of the following:*

- A * Anthracene derivatives*
- B Flavonoids*
- C Slime*
- D Alkaloids*
- E Saponins*

28. *Cortex Frangulae and its derivative drugs are used as laxatives in medicine. According to the State Pharmacopoeia of Ukraine, during chromatographic identification of Cortex Frangulae it is necessary to detect:*

- A * Glucofrangulins*
- B Purpurea glycosides*
- C Panaxosides*
- D Ginkgosides*
- E Fanatosides*