

## 5. ORGANIC NOMENCLATURE, PRESENTATIONS: DELIVERY

### Compounds of Carbon + Hydrogen - HYDROCARBONS

#### 1. Pronounce correctly:

hydrocarbon	ethane	hexane	methane
cyclic	ethene	octane	methyl group
alkane	ethyne	benzene	butane
alkene	ethanol	naphthalene	propane
alkyne	ethanoic acid	phenol	butadiene
aromatic	ketone	hexane	ethylene
aliphatic	acetone	octane	propine
saturated	propene	methyl group	alcohol
unsaturated	pentane	carboxyl group	aldehyde
chloromethane	dimethylpentane	phthalic acid	toluene

#### 2. Study the handout: Chemical Nomenclature of Organic Compounds (Page 7-8). Without looking at the handout, try to name these compounds:

- CH<sub>4</sub>
- C<sub>6</sub>H<sub>6</sub>
- CH<sub>3</sub>OH
- C<sub>3</sub>H<sub>8</sub>
- CH<sub>3</sub>CH<sub>2</sub>OH
- HCOOH
- CH<sub>3</sub> – CO – CH<sub>3</sub>
- C<sub>10</sub>H<sub>8</sub>

#### 3. Read the text and try to fill in the gaps according to the context

##### The story of hydrocarbons

The classes of hydrocarbons are alkanes,....., alkynes and arenes. Alkanes are hydrocarbons in which all the ..... are single bonds and they are characterized by the molecular formula C<sub>n</sub>H<sub>2n+2</sub>.

Functional groups are the structural units responsible for the characteristic reactions of a molecule.

The functional groups in an alkane are its hydrogen substituents.

The simplest alkane is methane, CH<sub>4</sub> ; ..... is C<sub>2</sub>H<sub>6</sub> and propane is C<sub>3</sub>H<sub>8</sub>.

Constitutional isomers are possible for alkanes with four or more .....

Thus there are two isomers of molecular ..... C<sub>4</sub>H<sub>10</sub>. One of these has an unbranched carbon chain and is called butane; the other has a ..... chain and is called isobutane. Isobutane is a common name.

Cycloalkanes are..... in which a ring is present; their .....  
..... is C<sub>n</sub>H<sub>2n</sub>.

#### 4. Listening/watching<sup>1</sup>

Understanding a lecture.

Listen to the lecture on butane and isobutane. Make notes.

Watch the presenter's delivery (intonation, pauses...) and body language.

Then work in pairs. Describe the two compounds and compare them.

### PRESENTATIONS – DELIVERY

#### 5. What makes a good delivery? Discuss in groups.

#### 6. Using your voice

Pausing in the wrong place a) can destroy the meaning

b) doesn't matter at all

c) will draw your audiences' attention

By placing the main stress on different words you a) can change the meaning

b) can't change anything

c) can amuse your audience

Varying the speed of speaking a) will confuse your audience

b) doesn't play any role

c) will prolong your audience's attention

You should speak a) as fast as possible

b) as slowly as possible

c) as fast as your audience thinks

#### 7. Pronunciation practice - words where students often make mistakes.

**Read these sentences aloud and then repeat them after the recording:**

We will focus on biochemistry.

Determining factors were the primary focus of discussion.

We determined to focus on a major problem.

How does this method work?

Divalent and trivalent elements combine.

Our results will determine a further procedure for testing enzymes.

The gist of general geography.

Some of these chemical changes occur quite naturally.

They discovered a rare occurrence of hydrogen.

These are just some organisms that occur on our planet.

## BODY LANGUAGE

8. Watch both versions of the video<sup>2</sup> with no sound (20:40 - 23:18) and make notes on the presenter's body language. Complete the checklist.

	Version 1	Version 2
General appearance		
Stance and posture		
Hands – position		
Hands – gestures		
Eye contact		
Facial expression		
Movement		

### Points to remember:

#### *Posture*

Try to keep your posture upright but relaxed.

Look straight ahead, not down at the floor or up at the ceiling.

#### *Hands*

Use your hands to emphasize what you say.

It is safer to keep hands out of pockets – in some cultures this shows disrespect.

Hold a pen or pointer if you feel more comfortable – but don't play with it.

#### *Eye contact*

Maintain good eye contact with different people in the audience. Don't just look at one person.

#### *Facial expressions*

(e.g. smiles) to emphasize your feelings.

#### *Movement*

Don't stand completely still – a little movement between table and board, or between notes and audience, is more interesting.

Don't move around too much, or the audience may watch you instead of listening to you.

9. Write a short text on any topic (about half a page, 1-3 minutes). There should be a short introduction, signalling devices, ending. Then read it aloud to the others. Speak slowly and loudly, your talk should be simple, clear, easy to understand. Focus on good delivery, pronunciation, fluency, pauses etc. Mind your body language.



## 10. HOMEWORK.<sup>3</sup> wh-questions with/without do, with preposition otázky doplňovací s „do“ / bez „do“, s předložkou

A: Who ~~did phone~~ phoned so late last night?

B: It was Julia, a colleague from work.

A: What ~~wanted she~~ did she want ?

B: She hasn't got a car today. She asked if she can come with me.

A: ~~With who works she~~ Who does she work with? Is she in your team?

B: No, she's in export.

### Doplňovací otázky s do a bez do u významových stoves

Otázky s when, where, how a why se tvoří příslušným tvarem slovesa do.

Tom teaches English at the language school on Wednesday evening.

When does Tom teach English at the language school?

Where does Tom teach English on Wednesday evening?

Otázky s who se tvoří bez do, pokud who odpovídá českému „kdo“, tj. je ve funkci podmětu (otázka podmětná). Otázky s who se tvoří pomocí do, jestliže who odpovídá českému „koho“ nebo „komu“, tj. je ve funkci předmětu (otázka předmětná).

Tom teaches Anja.

Who teaches Anja? -Tom. He's the teacher. *Kdo učí Anju?*

Who does Tom teach? -Anja. She's a student. *Koho učí Tom?*

who = „kdo“ označuje větný podmět - osobu, která něco dělá.

who = „koho“ označuje větný předmět - osobu, které někdo něco dělá.

Otázky s what, which a how much/many se tvoří bez do, jestliže je tázací výraz podmětem (nebo částí podmětu), pomocí do se naopak tvoří, jestliže je tázací výraz předmětem (nebo částí předmětu).

Tom watched some videos with his students last week.

What happened last week? Co se stalo minulý týden?

What did Tom do last week? Co Tom minulý týden dělal?

Which video interested the class most? Který videonázev třídu nejvíce zajímal?

Which videos did the class watch? Na které videosnímky se třída dívala?

### Otázky s předložkami

V těchto otázkách odpovídá who...with? českému „s kým“, who...to? českému „komu“.

Anja went sailing with Tom last week. She introduced him to her friends.

Who did Anja go sailing with? Who did she introduce him to?

*S kým šla Anja jezdit na plachtěnici? Komu ho představila?*

Předložka (zde: with, to) je ve větě obvykle tam, kde bývá i v ostatních případech: za slovesem, případně za jeho předmětem - nikoli před tázacím výrazem jako v češtině.

Toto postavení předložky se vyskytuje i v ostatních otázkách.

He is looking for a present for a friend. Her friend comes from Colombia,

What is he looking for? Where does her friend come from?

## EXERCISES

### One sentence has a mistake. Which sentence is correct?

1. *Why did you phone Jill yesterday?* - CORRECT
2. *Why phoned you Jill yesterday?*
1. a) What kind of holidays do you prefer? b) What kind of holidays prefer you?
2. a) With who did you go to the cinema? b) Who did you go to the cinema with?
3. a) How did Tom break his leg? What did happen? b) How did Tom break his leg? What happened?
4. a) Who answered the phone when you called Steve?  
b) Who did answer the phone when you called Steve?
5. a) Who looked after the children while you were away?  
b) Who did look after the children while you were away?
6. a) How many people went to Jane's party? b) How many people did go to Jane's party?

### Make questions for these answers.

*When / happen / the accident? - It happened last week. - When did the accident happen?*

1. Who / Jane / share a flat / with? - She lives with two friends.
2. How many people / come to your birthday party last week? - Over thirty.
3. What wine / go / best with beef: red or white? - Red wine, I think.
4. Who / help you / with your homework? - Nobody, I did it myself!
5. What / normally happen / at Christmas in your office? - We usually all go out for dinner.

### Make questions for these answers.

A: What *did you do yesterday evening?*

B: I went to the opera.

1. A: Who.....?  
B: I went with a colleague.
2. A: Who.....?  
B: My colleague paid for the tickets.
3. A: What..... after the opera?  
B: We met some friends at the theatre, so we all went for a drink.
4. A: How many of you..... altogether?  
B: There were six of us.
5. A: Who..... in the pub?  
B: I sat next to Paul.
6. A: What.....?  
B: We talked about his new flat.

### Translate the following questions.

1. Co se stalo minulý týden? Jak se ta nehoda stala?
2. Kdo volal včera tak pozdě?
3. S kým jsi šla včera nakupovat?
4. Kdo ti poslal tenhle lístek?
5. Komu jsi napsal, když jsi byl na dovolené?

### Alkanes

IUPAC name	trivial/common name	[pronunciation]
methane	methane	[me <sup>θ</sup> ein, Br. mi: <sup>θ</sup> ein]
ethane	ethane	[e <sup>θ</sup> ein, Br. i: <sup>θ</sup> ein]
propane	propane	[pr <sup>θ</sup> upein]
butane	butane	[bju:tein]

### Alkenes

IUPAC name	pronunciation	trivial n.	pronunciation
ethene	[e <sup>θ</sup> i:n]	ethylene	[e <sup>θ</sup> əli:n]
propene	[pr <sup>θ</sup> upi:n]	propylene	[pr <sup>θ</sup> upəli:n]
but-1-ene	[bju:t-wan-i:n]	1-butylene	[wan-bju:təli:n]

### Alkynes

ethyne	[e <sup>θ</sup> ain]	acetylene (IR)	ə'setəli:n]
propyne	[pr <sup>θ</sup> upain]	methylacetylene	

### Cycloalk/a/e/yne

cyclopropane	[,saikl <sup>θ</sup> pr <sup>θ</sup> upein]	cyclopentene	[saikl <sup>θ</sup> penti:n]
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### Branched Hydrocarbons

2-methylpentane

prefixes: ethyl [e<sup>θ</sup>ə], propyl [pr<sup>θ</sup>upə], butyl [biu:tə], pentyl [pentə]

### Aromatic Hydrocarbons

benzene	[benzi:n]	phenanthrene	[fə'nan <sup>θ</sup> ri:n]
naphthalene	[næf <sup>θ</sup> əli:n]		

### Aldehydes

methanal	[me <sup>θ</sup> əneə]	formaldehyde (IR)	[for'mældəhaid]
ethanal	[e <sup>θ</sup> ənə]		

### Ketones

propanone	[pr <sup>θ</sup> upənəun]	acetone (IR)	[æ'setəun]
pentan-2-one	[pentən-tu:-əun]		

### Alcohols

methanol	[me <sup>θ</sup> ənol, Br. mi: <sup>θ</sup> ənol]	methylalcohol	[~aelkəhol]
ethanol	[e <sup>θ</sup> ənol, Br. i: <sup>θ</sup> ənol]	ethylalcohol	
propan-1-ol	[pr <sup>θ</sup> upənol]	propylalcohol	
ethane-1,2-diol	[e <sup>θ</sup> eindaio]		

## Amines, amides

propan-1-amine [prəʊpən əmi:n] propylamine (IR) [prəʊpəl əmi:n]  
methanamide [meθein əmaɪd] formamide (IR) [fɔrməmaɪd]

## Ethers [i:θ ə(r)s]

methoxyethane [meθoksieθein] ethylmethylether (IR) [eθ əl meθ əl i:θ ə(r)]

## Carboxylic acids

methanoic acid [meθənoɪk] formic (IR) [fo:rmɪk]  
ethanoic acid [eθənoɪk] acetic (IR) [ə'si:tɪk]  
propanoic acid [prəʊpənoɪk]  
hexane-1,6-dioic acid ['hexein 'daioɪk]  
decane-1,2,4,6-tetra carboxylic acid [ka:rbok'sɪlɪk]  
cyclo-2-pentene-1-carboxylic acid

## Esters of carboxylic acids

methylmethanoate [meθ əl meθ ən əuət] methylformate (IR) [meθ əl fɔrmeɪt]  
ethylpropanoate [eθ əl pr əʊp ən əuət]

## Halogenderivatives

2-chlorohexane [klorəhexein]  
methyl iodide

## Names of Common Substituents Groups

nitro- [naɪtrəu] amino- iodo- bromo- vinyl-[vainəl]

**Sources:** <sup>1</sup> Available at <http://www.haverford.edu/wintnerorganicchem>

<sup>2</sup> Comfort, Jeremy and Utley, Derek: *Effective Presentations*. OUP 2000

<sup>3</sup> House, Christine, et al. *Grammar no problem*. Plzeň: Fraus, 2004.

Lesson adapted from Hana Němcová and Milada Pavlovová.