

БӨЛІМ: ХИМИЯ

Химия пәні бойынша Ароматтық қосылыстардың химиялық қасиеттері бойынша қысқа мерзімді сабақ жоспары

ЖАРИЯЛАНДЫ
02.05.2019

СІЛТЕМЕ
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АННОТАЦИЯ / АҢДАТПА

Long-term plan unit: 12.2C AROMATIC COMPOUNDS		School: NIS	
Date: 22/11/2018		Teacher: Tursinalieva Akbolai	
Grade: X-1(12th grade)		Number present:	absent:
Theme of the lesson	REACTIONS OF AROMATIC COMPOUNDS		
Learning objectives that are achieved at this lesson	<ul style="list-style-type: none"> — understand and be able to explain why the structure causes benzene and associated compounds to undergo electrophilic reactions — understand the mechanism of nitration and the importance of nitration in synthesis and know some compounds for which nitration is an important precursor — understand Friedel-Crafts acylation and its importance in synthesis 		

Success criteria	<i>All learners will:</i> <ul style="list-style-type: none">— understand and be able to explain why the structure causes benzene and associated compounds to undergo electrophilic reactions— understand the mechanism of nitration and the importance of nitration in synthesis and know some compounds for which nitration is an important precursor— understand Friedel-Crafts acylation and its importance in synthesis
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Language objectives	<p>Subject-specific vocabulary & terminology:</p> <ul style="list-style-type: none">• aromatic — an organic compound that is derived from benzene• benzene ring - an organic compound with the formula C_6H_6• electrophile - a specie that has positive ions or have a partial positive charge• nucleophile - a specie possess one or more lone pairs of electrons and may also carry a negative charge• mechanism — describes the sequence of elementary reactions that must occur to go from reactants to products• reaction - in chemistry, is a process in which atoms of the same or different elements rearrange themselves to form a new substance• Friedel-Crafts — a type of reaction in which an alkyl or acyl group is substituted into an arene• leaving group — An atom or group of atoms that is displaced during a substitution or an elimination reaction• nitrating agent — A mixture of concentrated nitric and sulfuric acids, which generates the active species $-NO_2^+$, the nitronium ion. It is used in the nitration of benzene. <p>Useful sets of phrases for dialogue and writing: Aromatic compounds are... Nitration of benzene is... Friedel-crafts acylation is... Friedel-crafts acylation is important...</p>
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Values instilled in the lesson	Patience, Self-reliance, Teamwork, Confidence	
Cross-curricular links	English – vocabulary, speaking skills Chemistry – benzene reactions	
ICT skills	YouTube, Internet	
Previous learning	benzene structure, nucleophilic substitution, electrophilic substitution	
COURSE OF THE LESSON		
Planned stages of the lesson	Planned activities at the lesson	Resources

Beginning 0-8 min	<p>Teacher will divide the learners into pairs and will be given a labelled card. Each pair will answer the question on the labelled card which is related to the previous lesson about benzene.</p> <ol style="list-style-type: none">1 Why is benzene more stable than cyclohexa-1,3,5-triene?2 What type of hybridisation does benzene have?3 What is the delocalisation energy of benzene equal to?4 How does the carbon-carbon bond length of benzene compare to double and single carbon-carbon bonds?5 Draw the structure that accurately represents Benzene6 Explain delocalisation.	Stickers with a question Labelled card
9-11 min	<p>Teacher will show the lesson objectives, keywords and glossary for the day's lesson. Learners will then be asked to write their learning outcomes for today's learning objectives.</p>	(slide 2-4)

<p>Middle 12-28 min</p>	<p>Learners will be divided into 3 groups. Each Group will be assigned a task, they will discuss and write about</p> <ol style="list-style-type: none"> conditions for the reaction to proceed, including reactants and products equation mechanism of the reaction <p>Tasks:</p> <ol style="list-style-type: none"> Nitration of Benzene Halogenation of benzene Friedel-crafts Acylation 	<p>Text from Knockhardy Notes</p> <p>Poster, multi coloured markers, hand out material with tasks</p>
<p>29-40 min</p>	<p>Learners will complete a peer and self-assessment about the task they just finished. Each group will present their task to the class. Teachers will provide feedback about the presentations while other learners can ask questions, if they have, to clarify about the reactions benzene undergoes.</p>	<p>Assessment criteria Posters</p>
<p>41-60 min</p> <p>End 61-80min</p>	<p>INDIVIDUAL ACTIVITY: WRITING EXERCISE Learners will explain the stability of benzene given the thermochemical data. Teacher will show the mark scheme for the writing exercise.</p> <p>Formative Assessment The students will answer the exam style questions from the course book.</p>	<p>(slide 5-6) WORKSHEET 12.2.1</p> <p>Course book</p>

Differentiation	Assessment - how are you planning to check students' learning?	Health and safety regulations
<p>ALL learners — know the importance of nitration in synthesis and know some compounds for which nitration is an important precursor</p> <p>MOST learners — understand the mechanism of nitration and nucleophilic reaction mechanisms — understand Friedel-Crafts acylation and its importance in synthesis</p>		Classroom safety rules

Reflection

Were the lesson objectives/learning objectives realistic?

Did all learners achieve the LO?
If not, why?

Did my planned differentiation work well?

Did I stick to timings?
What changes did I make from my plan and why?

Use the space below to reflect on your lesson. Answer the most relevant questions from the box on the left about your lesson.

ҚМ АА Күәлік нөмірі: **KZ45VPY00102718** — ҚР Мәдениет және Ақпарат министрлігі

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