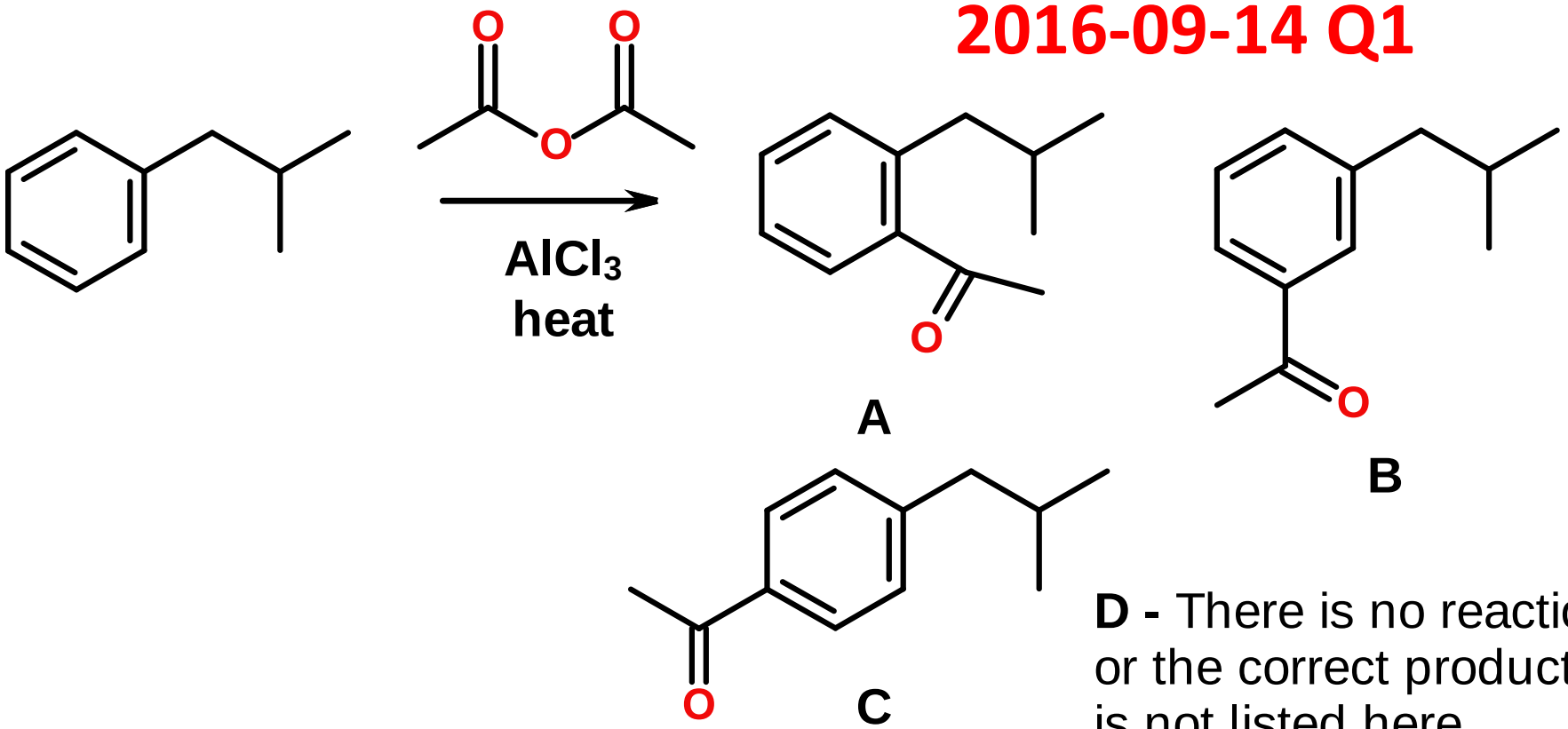
Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order.

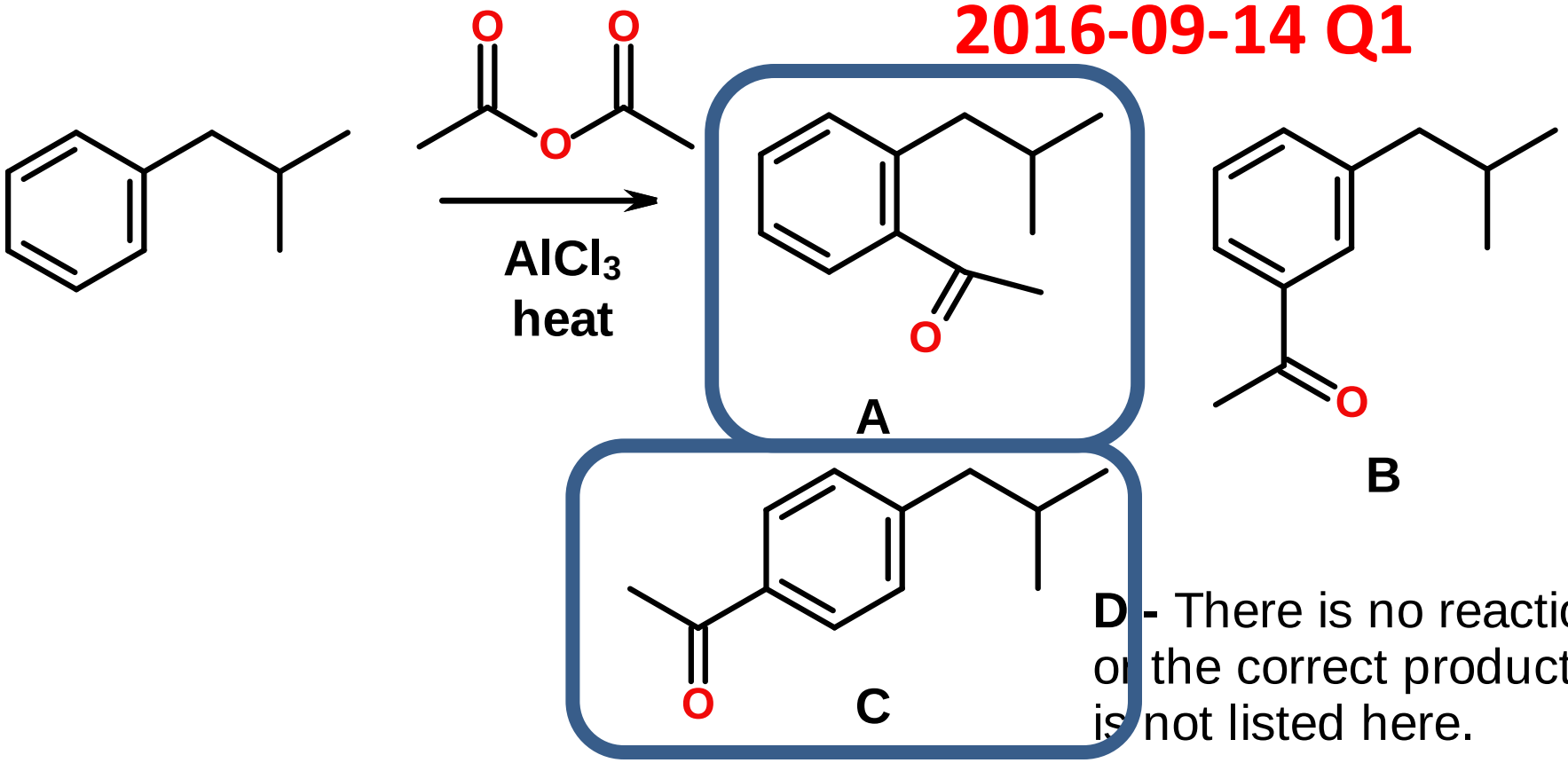
2016-09-14 Q1



D - There is no reaction or the correct product is not listed here.

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order.

2016-09-14 Q1



D - There is no reaction or the correct product is not listed here.

Exam 1

- **Time:**
  - **Tuesday, September 20: 7:00 – 9:00PM OR**
  - **Wednesday, September 21: 7:00 – 9:00PM OR**
  - **Thursday, September 22: 7:00 – 10:00PM**
- **Location – Soc/Anthro Testing Center**
  - Chapters will be covered in this order: Chapter 11, 14, 15, 19, 13
- **Practice Exams are Posted**
  - B7-19-98A Practice Exam 1A
  - B7-19-98B Practice Exam 1B
- **Deadline for alternate arrangements is Monday, 9/19/2016 at 4:30 PM (i.e., close of business)**
  - **An oral make-up exam will be required for making up the exam for all students not taking the exam on the above dates or having already made prior arrangements**

Order of Coverage (Exam 1)

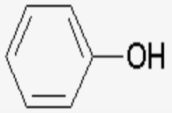
	Homework Assignment	Due Date
1	B4-11-01 IR Functional Groups (wDeadline)	Tuesday, August 23
2	B7-14-02 Mass Spec - Molecular Ion (wDeadline)	Wednesday, August 24
3	B7-14-03 Mass Spec - Isotope Effects (wDeadline)	Thursday, August 25
4	B7-15-01 Number of Peaks 1H NMR Spectra (wDeadline)	Friday, August 26
5	B7-15-06 Number of Peaks 13C NMR (wDeadline)	Saturday, August 27
6	B7-15-02 Theoretical NMR Chemical Shift (wDeadline)	Sunday, August 28
7	B7-15-03 Theoretical NMR Integration (wDeadline)	Monday, August 29
8	B7-15-04 Theor. NMR Spin-Spin Splitting (wDeadline)	Tuesday, August 30
9	B7-15-05 NMR Spectroscopy Problems (wDeadline)	Wednesday, August 31
10	B7-15-07 13C NMR Structure ID (wDeadline)	Thursday, September 1
11	B7-13-01A Nomenclature Alkyl Halides (wDeadline)	Friday, September 2
12	B7-13-01B Alkyl Halide Nomenclature (wDeadline)	Saturday, September 3
13	B7-13-02A Halogenation of Alkanes (wDeadline)	Sunday, September 4
14	B7-13-02B Halogenation of Alkanes (wDeadline)	Monday, September 5

Order of Coverage (Exam 1)

	Homework Assignment	Due Date
15	B7-13-03A Oxidation and Anti-oxidants (wDeadline)	Tuesday, September 6
16	B7-19-01 Aromaticity (wDeadline)	Wednesday, September 7
17	B7-19-02B Arene Nomenclature (wDeadline)	Thursday, September 8
18	B7-19-03A Halogenation of Arenes (wDeadline)	Friday, September 9
19	B7-19-03B Halogenation of Arenes (wDeadline)	Friday, September 9
20	B7-19-04A Arene Rxns Inorganic Acids (wDeadline)	Saturday, September 10
21	B7-19-04B Arene Rxns Inorganic Acids (wDeadline)	Saturday, September 10
22	B7-19-05A Friedel-Crafts (wDeadline)	Tuesday, September 13
23	B7-19-05B Friedel-Crafts (wDeadline)	Wednesday, September 14
24	B7-19-06 Arene Mechanistic Issues (wDeadline)	Thursday, September 15
25	B7-19-06B Arene Mechanisms (wDeadline)	Friday, September 16
26	B7-19-07A Nucleophilic Aromatic Subs (wDeadline)	Saturday, September 17
27	B7-19-07B Nucleophilic Aromatic Subs (wDeadline)	Sunday, September 18
	Exam 1	**September 20, 21, 22**

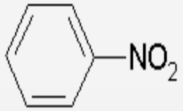
1 of 6

Rank the following compounds in order of their reactivity with Br_2 in the presence of a stoichiometric amount of $FeBr_3$ as a catalyst. Rank the fastest reacting compound as 1st and rank the slowest reacting compound as the highest number.

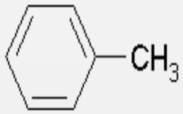


o,p-directing

Br_2, $FeBr_3$



m-directing

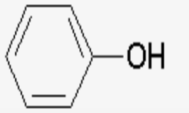


o,p-directing

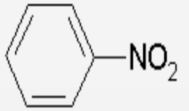
1 of 6

Rank the following compounds in order of their reactivity with Br_2 in the presence of a stoichiometric amount of $FeBr_3$ as a catalyst. Rank the fastest reacting compound as 1st and rank the slowest reacting compound as the highest number.

Br_2, $FeBr_3$



1



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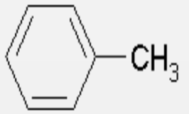
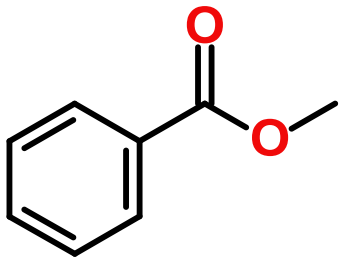


2

3

6 of 6

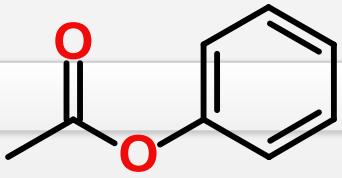
Rank the following compounds in order of their reactivity with Br_2, with the fastest reacting compound being ranked 1st and the slowest reacting compound being ranked with the highest number.



Br_2

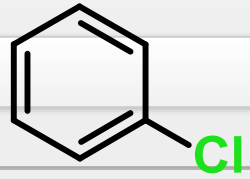
methyl benzoate

phenyl ethanoate



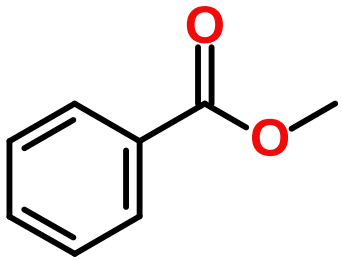
benzene

chlorobenzene



Previous

Submit



6 of 6

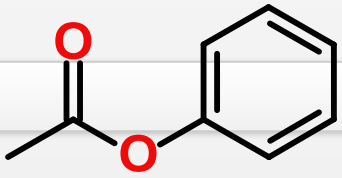
Rank the following compounds in order of their reactivity with Br_2, with the fastest reacting compound being ranked 1st and the slowest reacting compound being ranked with the highest number.

Br_2

methyl benzoate

4

phenyl ethanoate

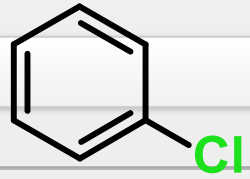


1

benzene

2

chlorobenzene

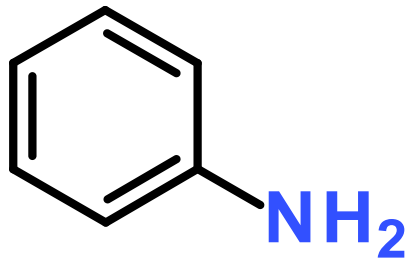


3

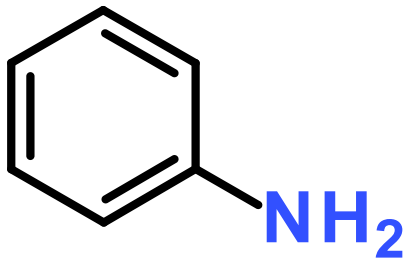
Previous

Submit

Does aniline contain an o,p-directing substituent or a m-directing substituent?



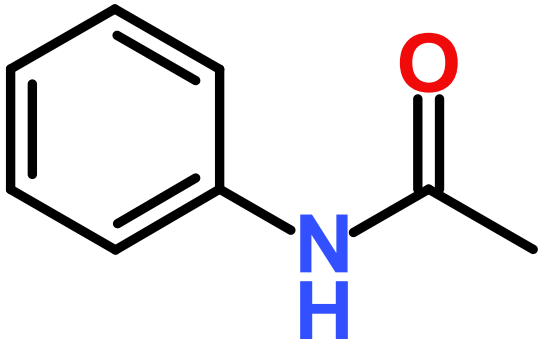
Does aniline contain an o,p-directing substituent or a m-directing substituent?



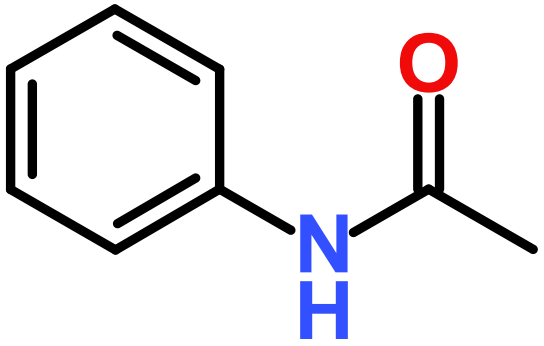
o,p-directing substituent

Lone pair electron on the nitrogen atom

Does acetanilide contain an o,p-directing substituent or a m-directing substituent?

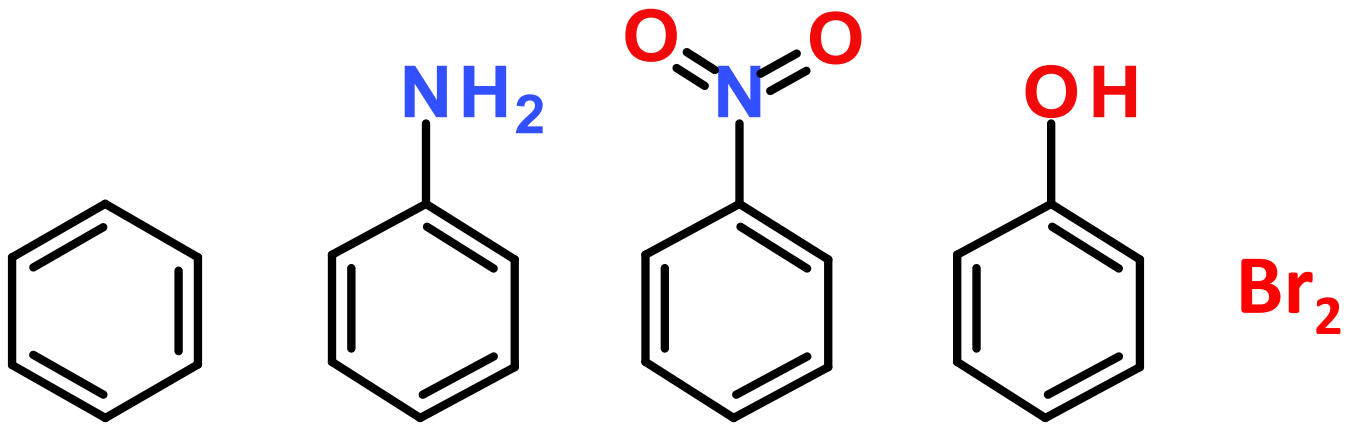


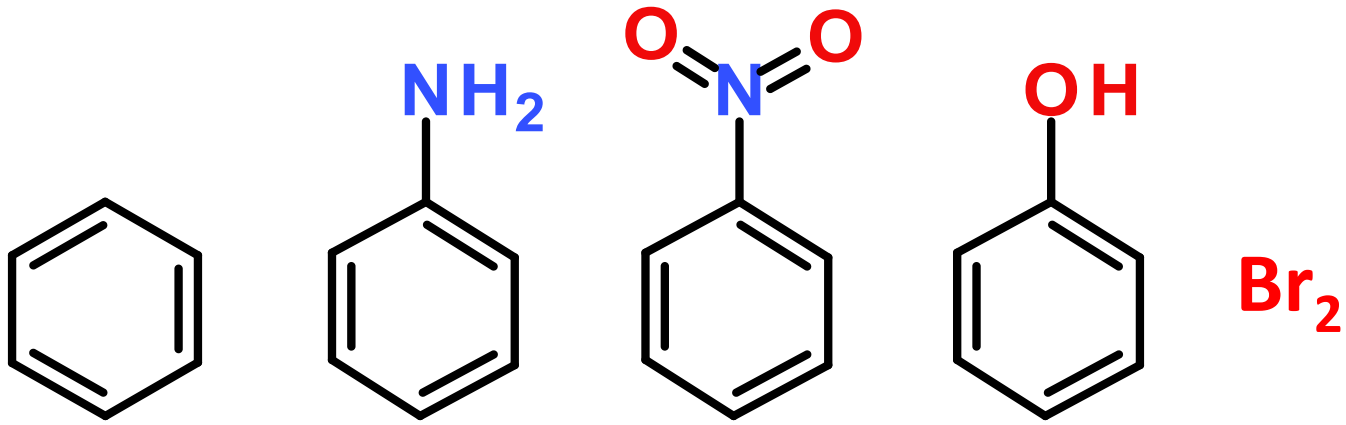
Does acetanilide contain an o,p-directing substituent or a m-directing substituent?



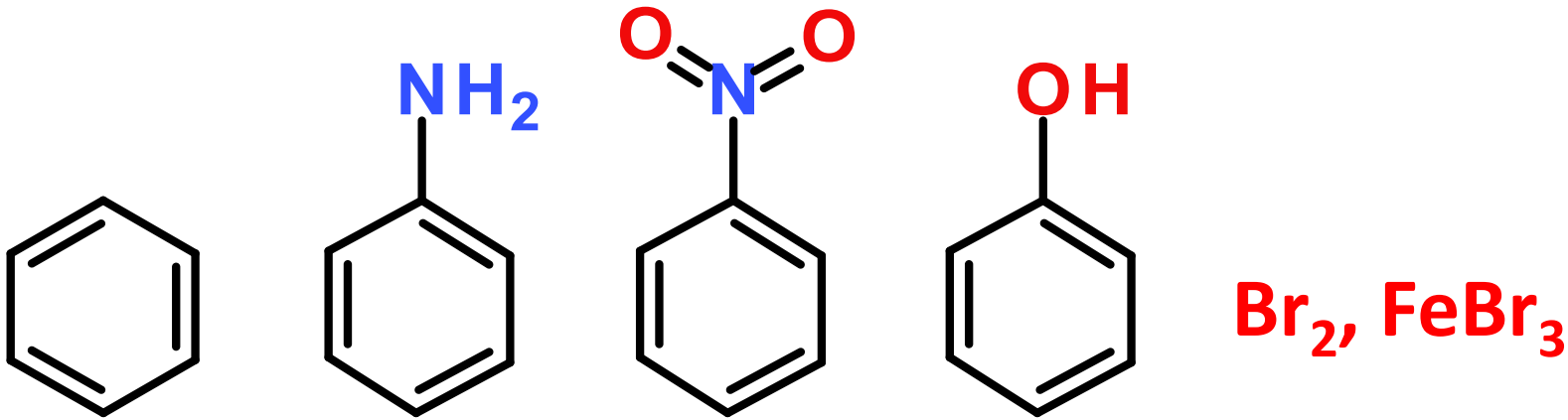
o,p-directing substituent

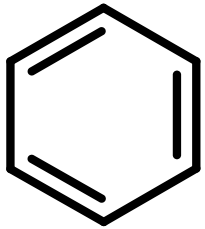
Lone pair electron on the nitrogen atom


NH2
O
N
O
OH
Br2

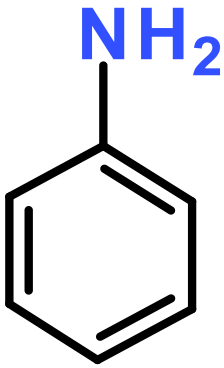


3 1 4 2

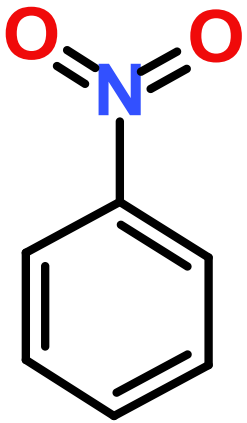

NH2
O
N
O
OH
Br2, FeBr3



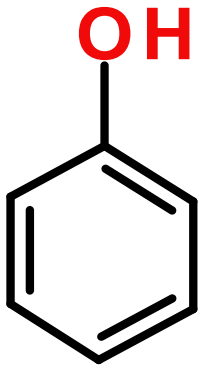
2



3

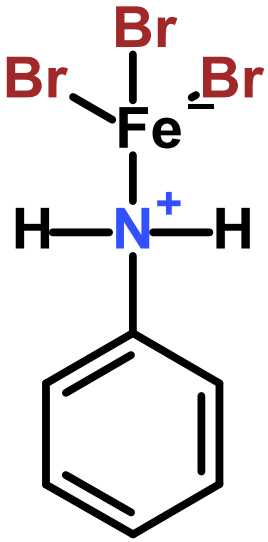


4

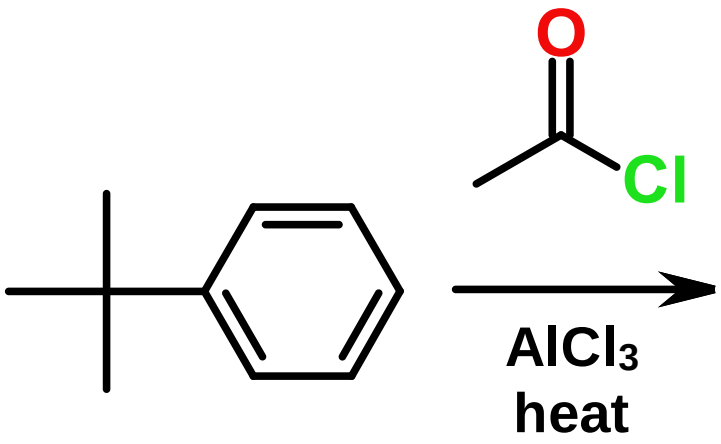


1

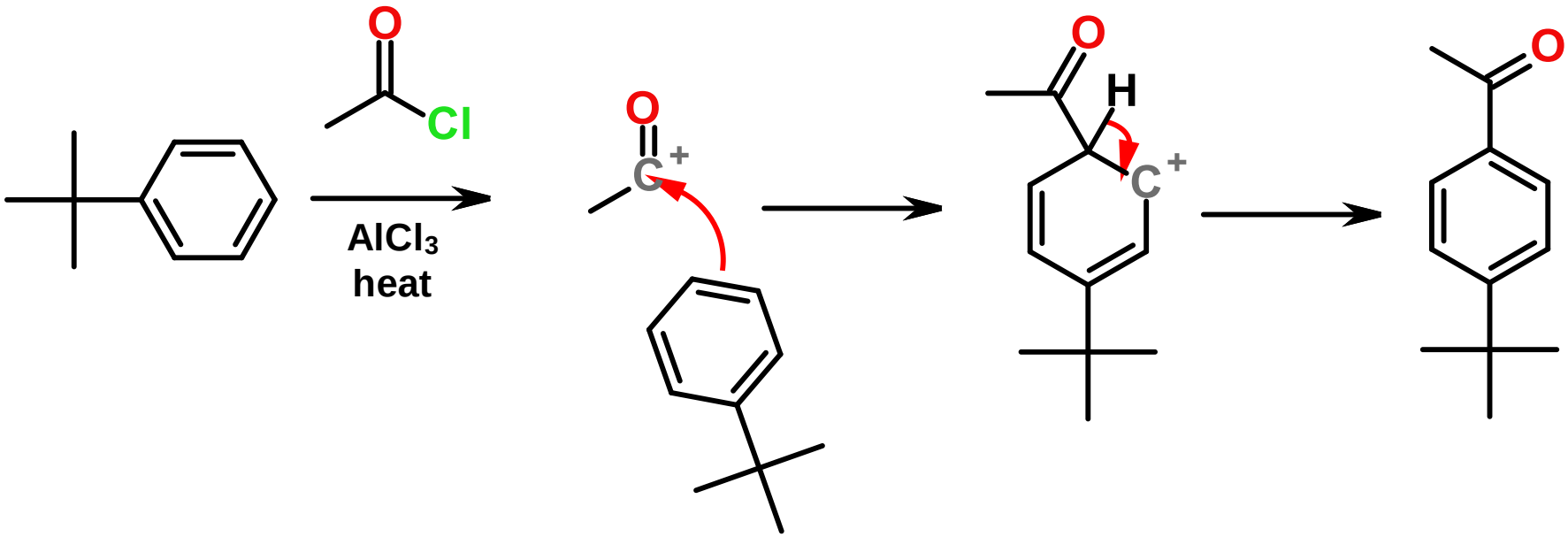
Br_2, $FeBr_3$



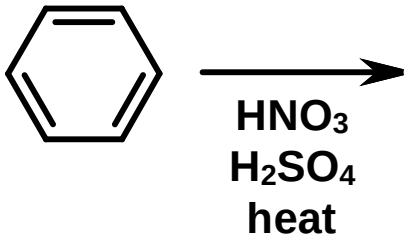
Mechanism



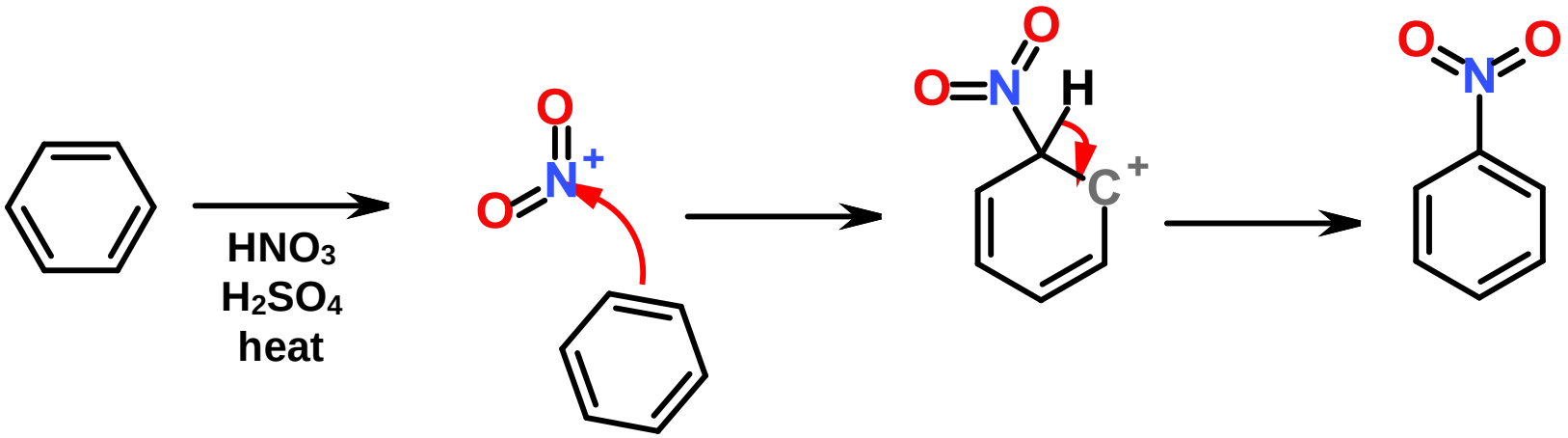
Mechanism



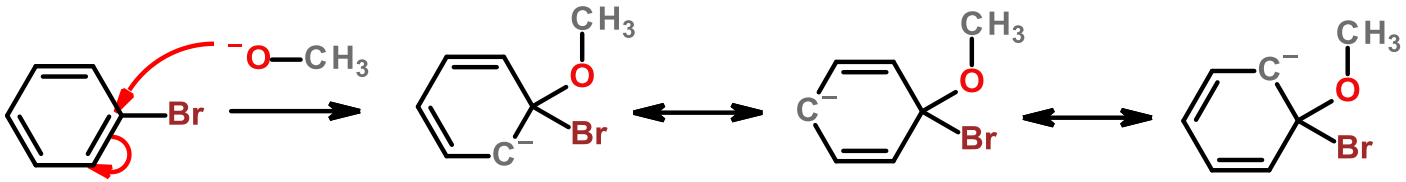
Mechanism



Mechanism

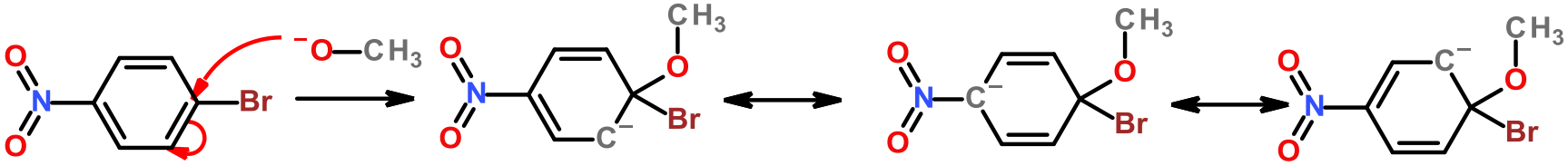


Nucleophilic Aromatic Substitution

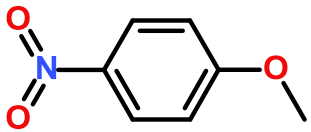


No Reaction!

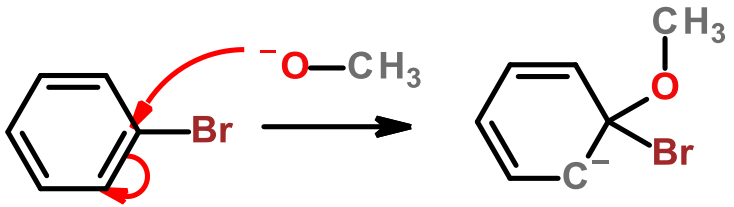
Intermediate is too high in energy to form!



Intermediate is stabilized in exactly the right position to lower the intermediate energy to an accessible energy. A product is formed!



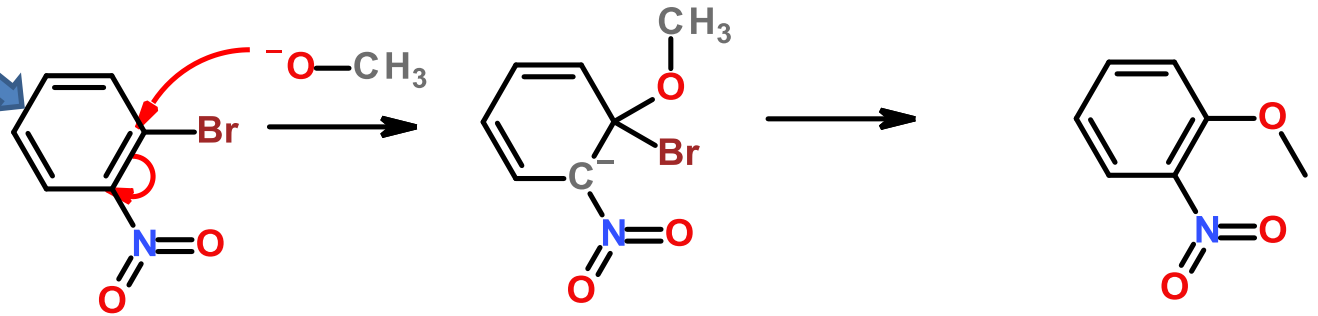
Examples: Nucleophilic Aromatic Substitution

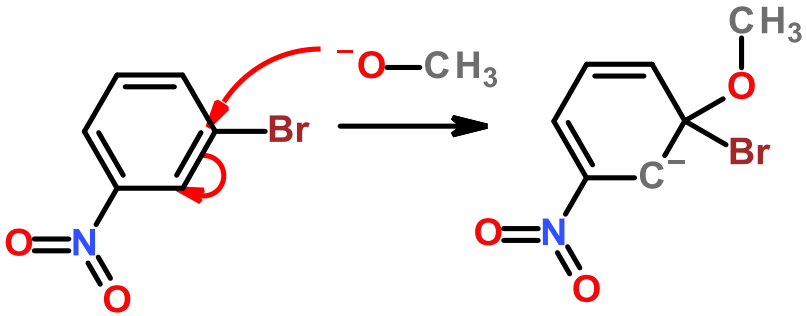


No Reaction!

Intermediate is too high in energy to form!

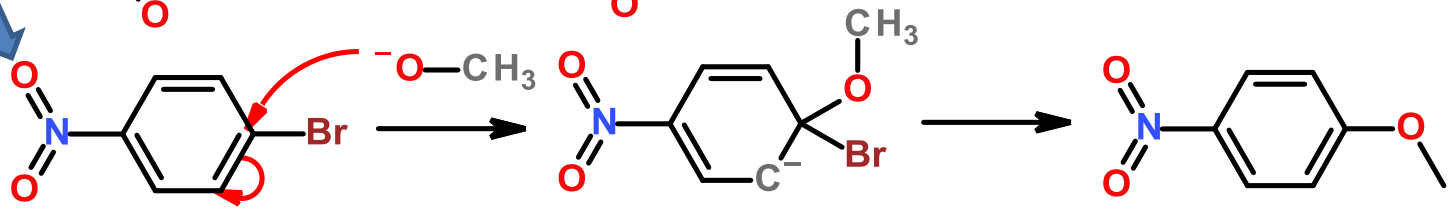
Intermediate is stabilized in exactly the right position to lower the intermediate energy to an accessible energy. A product is formed!



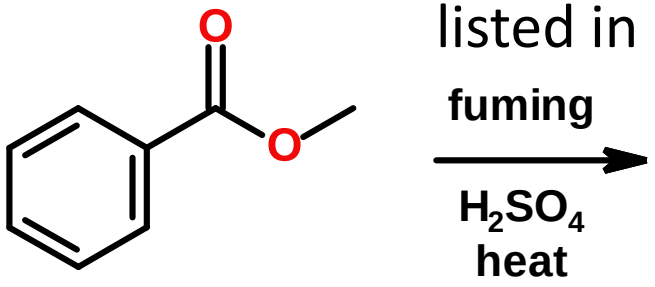


No Reaction!

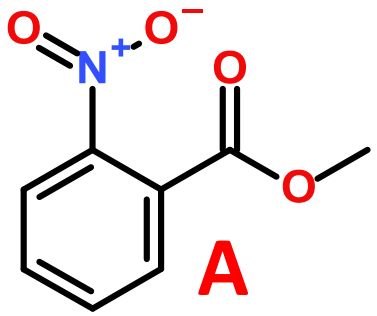
Intermediate is too high in energy to form!

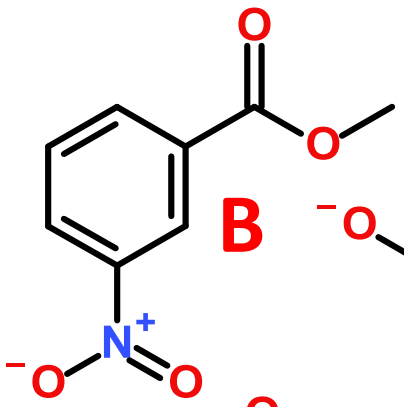


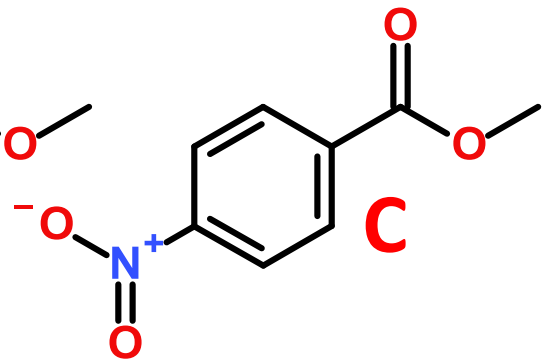
Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order.

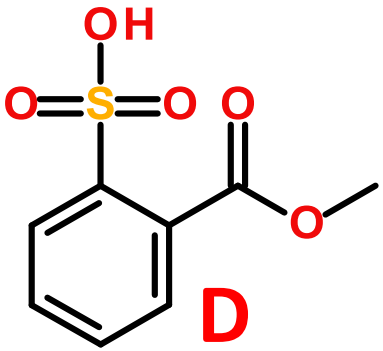


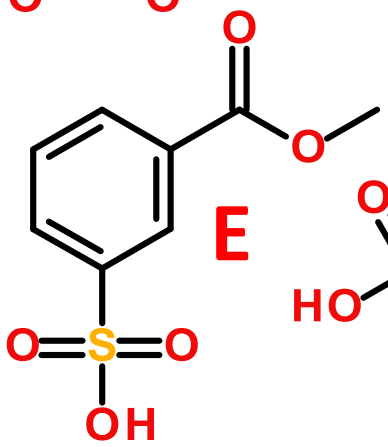
2016-09-14 Q2

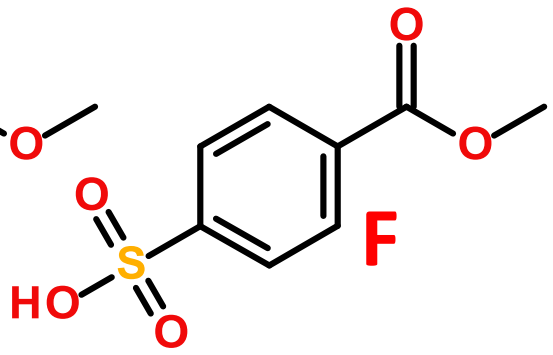






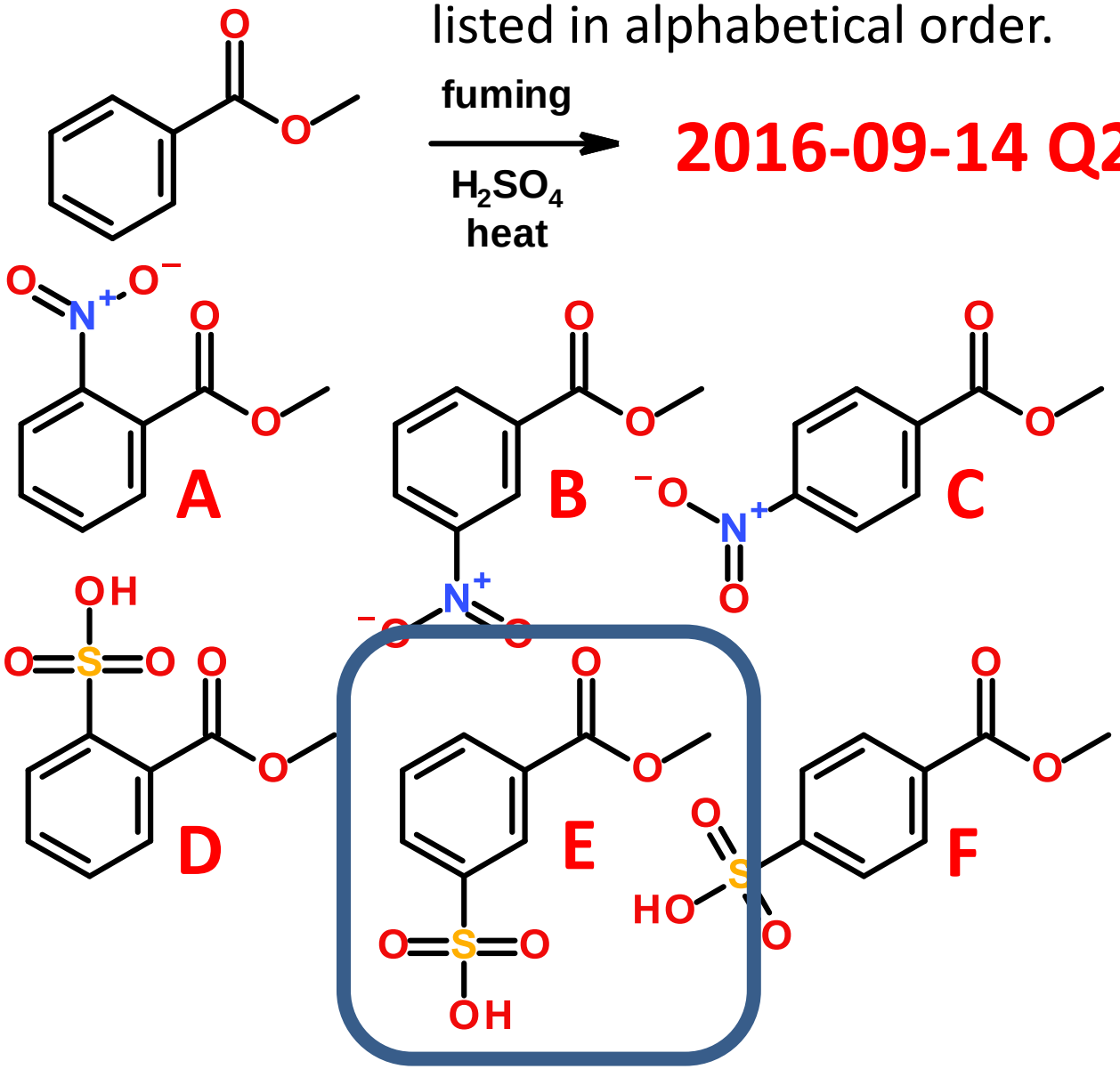






G. None of the above.

Give the major organic product(s) of the following reaction. Give your answer as a text answer, with the correct answers being listed in alphabetical order.

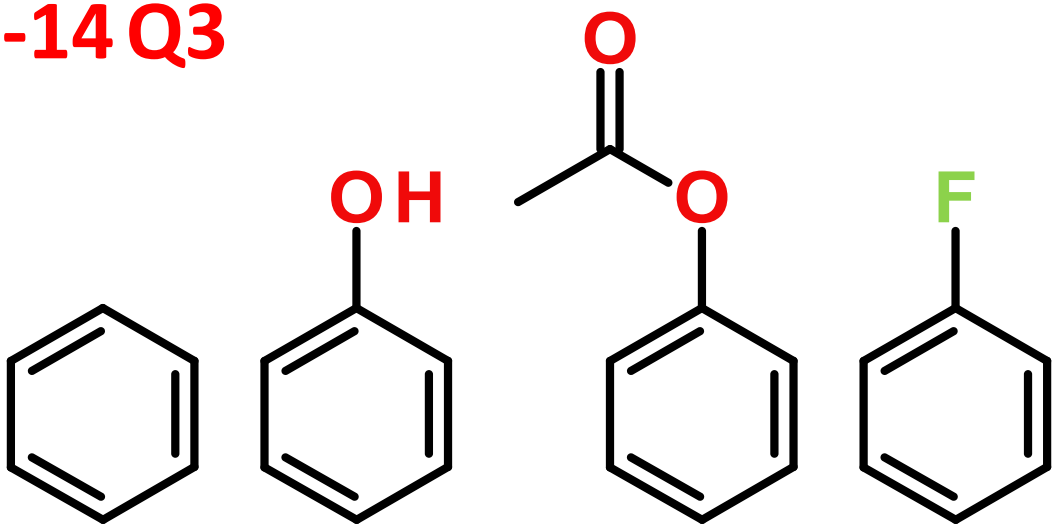


2016-09-14 Q2

G. None of the above.

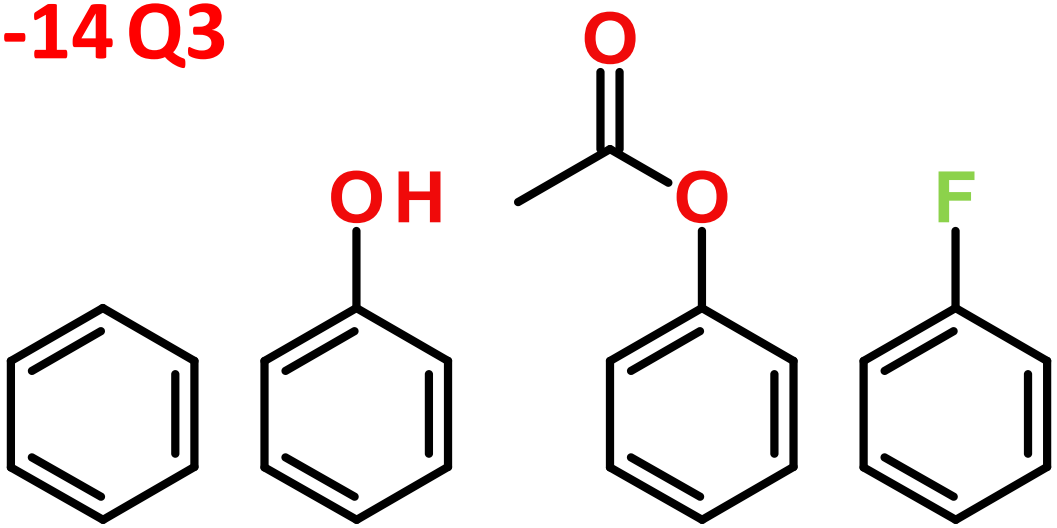
Order the following compounds in their reactivity to Br_2, with A being the fastest reacting compound and D being the slowest reacting compound. Give your answer as a text answer (Example: xxxx ABCD)

2016-09-14 Q3



Order the following compounds in their reactivity to Br_2, with A being the fastest reacting compound and D being the slowest reacting compound. Give your answer as a text answer (Example: xxxx ABCD)

2016-09-14 Q3

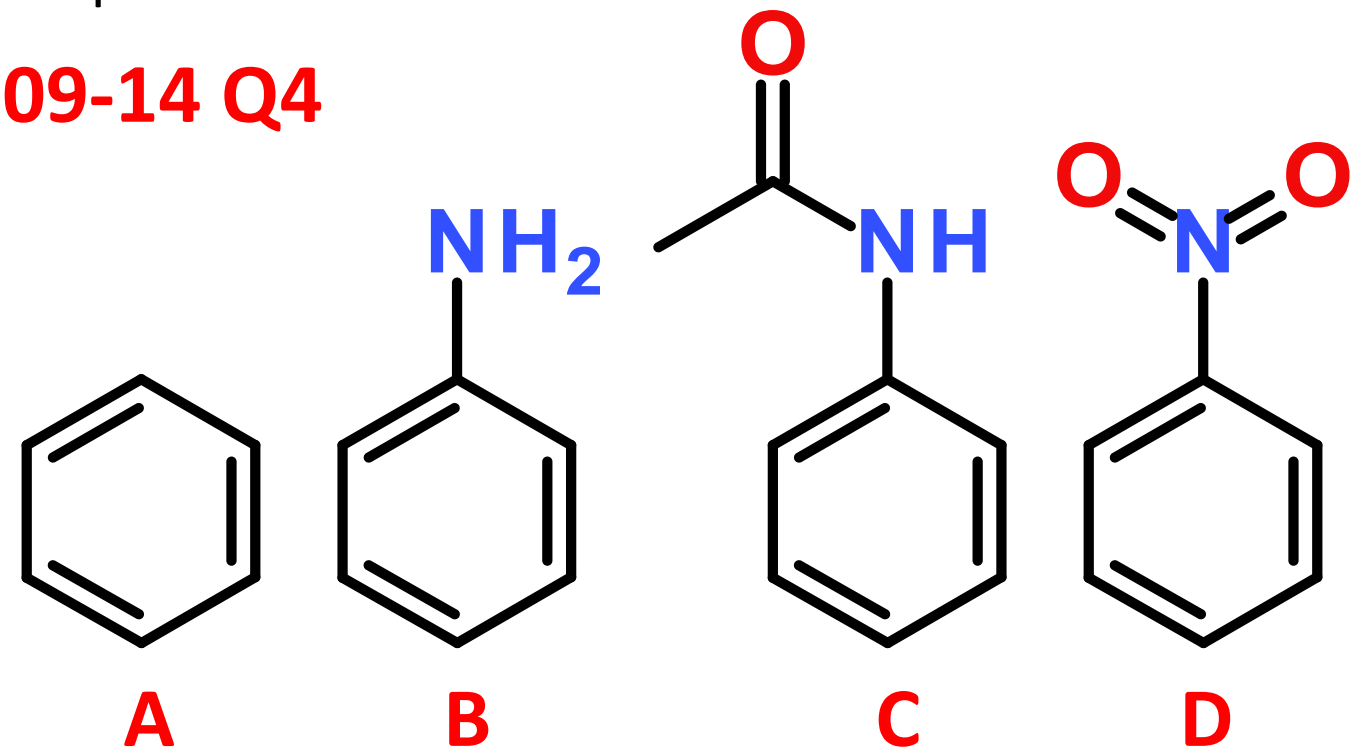


A **B** **C** **D**

Answer bcad

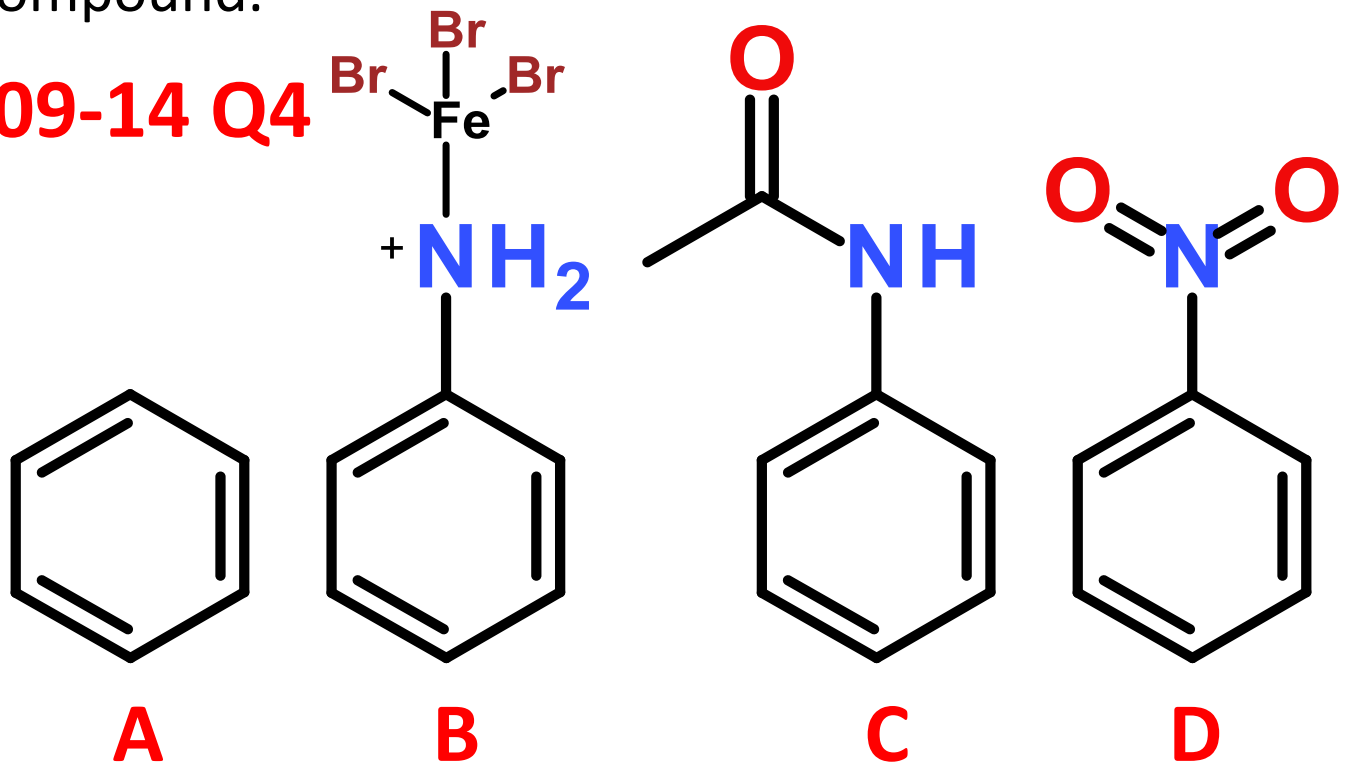
Order the following compounds in their reactivity to $Br_2/FeBr_3$ with A being the fastest reacting compound and D being the slowest reacting compound.

2016-09-14 Q4



Order the following compounds in their reactivity to $Br_2/FeBr_3$ with A being the fastest reacting compound and D being the slowest reacting compound.

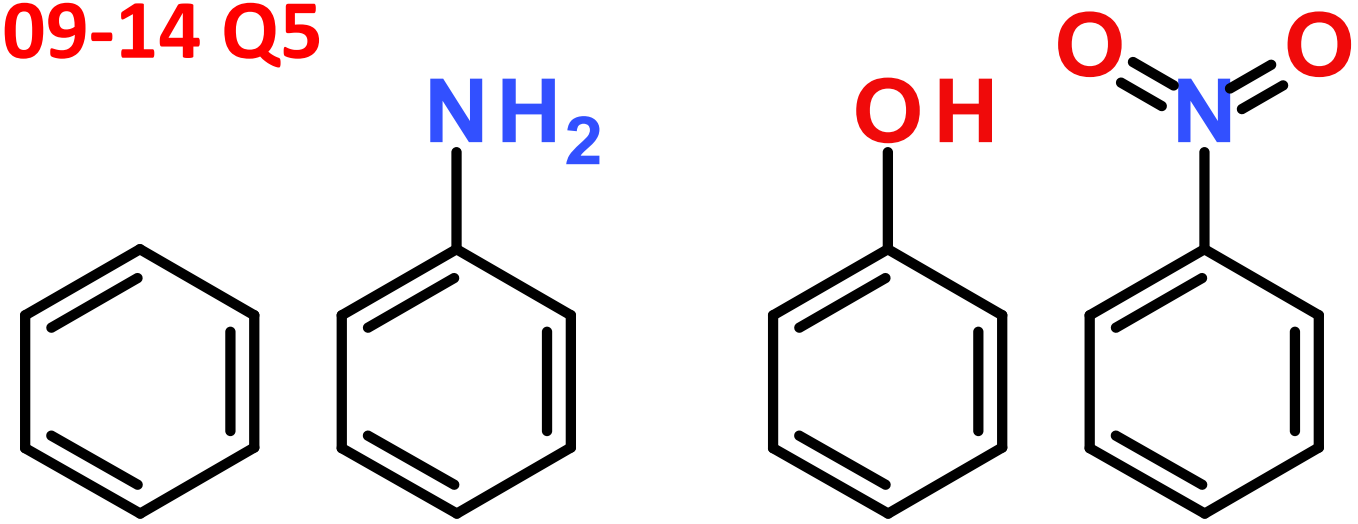
2016-09-14 Q4



Answer cabd

Order the following compounds in their reactivity to Br_2 with A being the fastest reacting compound and D being the slowest reacting compound.

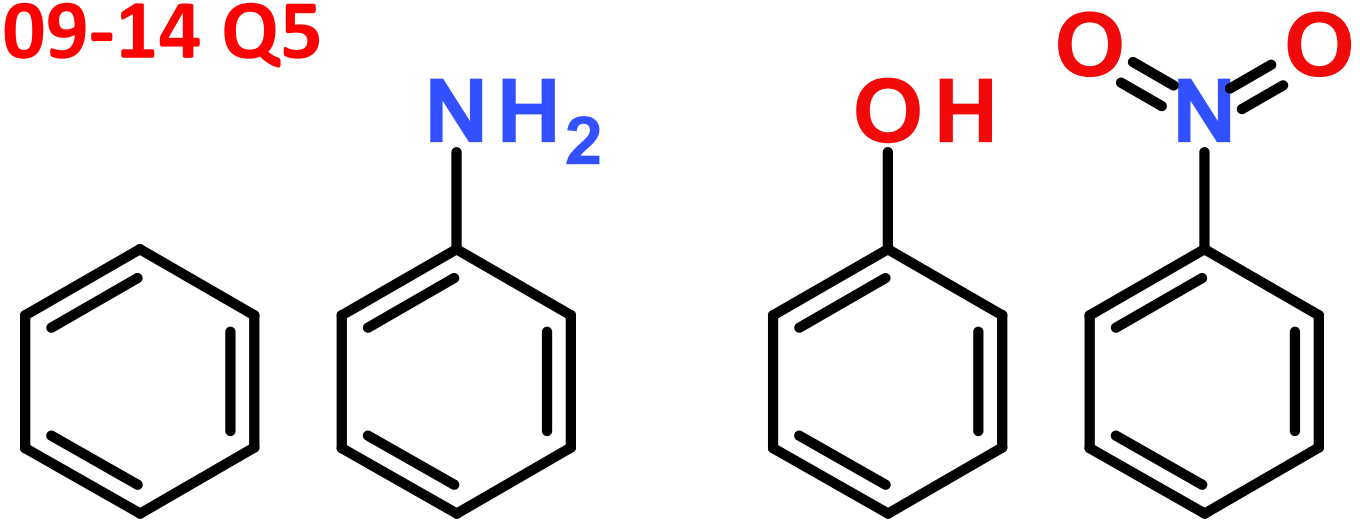
2016-09-14 Q5



A **B** **C** **D**

Order the following compounds in their reactivity to Br_2 with A being the fastest reacting compound and D being the slowest reacting compound.

2016-09-14 Q5



A **B** **C** **D**

Answer bcad