CONCEPT: NAMING ETHERS

- **Recall:** Ethers possess an oxygen atom connected to ____ alkyl groups.
- Ethers have a unique naming system.
  - □ The parent name is _____.

substituent-substituent-ether

EXAMPLE: Name the following ether compound.

$CH_3CH_2CH_2CH_2OCH_3$

STEP 1: Identify the ____ alkyl groups connected to the oxygen atom.

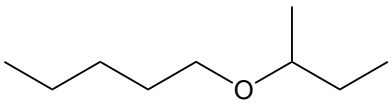
STEP 2: Name the two alkyl groups alphabetically as _____.

- □ If there are identical alkyl groups, use the numerical prefix _____.

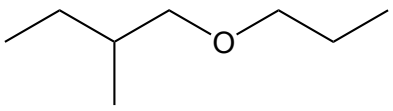
STEP 3: End the name of the compound with _____.

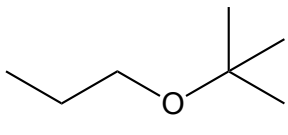
- □ Write the name with spaces.

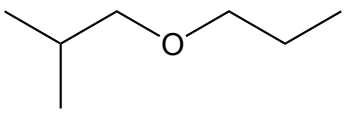
PRACTICE: Provide the name for the following ether.

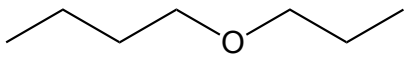


PRACTICE: Which structure represents isobutyl propyl ether?

a)


b)


c)


d)


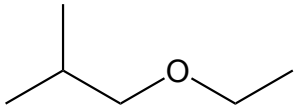
CONCEPT: NAMING ETHERS

IUPAC Naming System

- The IUPAC rules for naming ethers are very similar to Naming Alkanes with Substituents.
  - □ The _____ alkyl group is treated as an *alkoxy* substituent.
  - □ **Alkoxy Substituent**: The _____ alkyl group combined with the ____ atom.

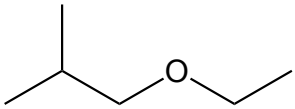
location-substituent-parent

EXAMPLE: Give the systematic name for the following ether.



STEP 1: Identify the ____ alkyl groups connected to the oxygen atom.

- □ The _____ carbon chain is assigned parent name according to the prefixes.
- □ If a tie between longest chains, choose chain with more substituents.



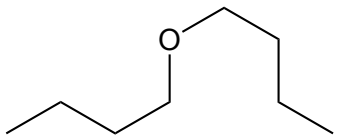
STEP 2: Assign name to all the substituents.

STEP 3: Start numbering the chain from the _____ substituent.

- □ If a tie between substituents, compare the next closest substituent.
- □ If still a tie, number in _____ order.

CONCEPT: NAMING ETHERS

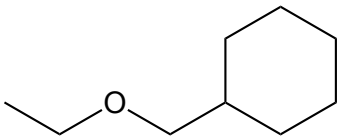
PRACTICE: Provide both the common and IUPAC name for the following ether.



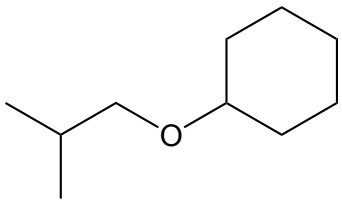
PRACTICE: What is the IUPAC name of isobutyl propyl ether?

PRACTICE: Which structure represents isobutoxycyclohexane?

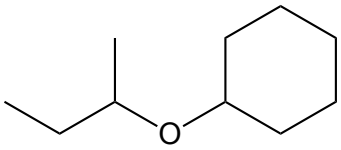
a)



b)



c)



d)