

## ORGANIC CHEMISTRY 2 LECTURE GUIDE 2019

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### Lesson IV.13. More on the Directing Effects of Substituents in EAS

#### *Steric considerations for EAS*

A complication is that the activating and slightly deactivating substituents direct substitution at both *ortho* and *para* positions. It would be useful to be able to predict how much *o*- and how much *p*- product will be formed. One consideration is:

(A)

Another point to consider is:

(B)

Thus:

(C)

Notes

**Lesson IV.13. More on the Directing Effects of Substituents in EAS***Steric considerations for EAS Practice*

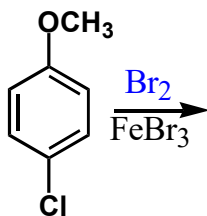
Often, a starting arene will have two substituents on it. In these cases, you need to consider the directing preference of both substituents. As a general rule:

(A)

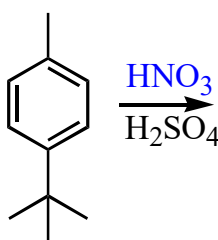
You also must consider:

(B)

Examples:



(C)



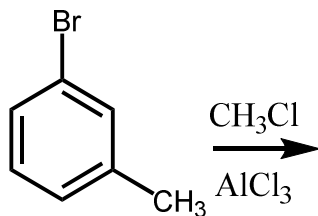
(E)

(D)

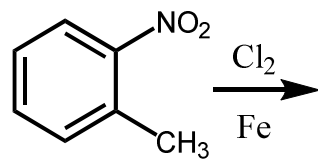
(F)

Notes

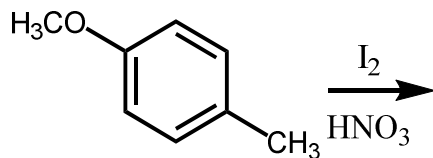
**Lesson IV.13. More on the Directing Effects of Substituents in EAS**  
*Multiple Substituents for EAS Practice*



(A)



(B)



(C)

Notes