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DBore Reaction

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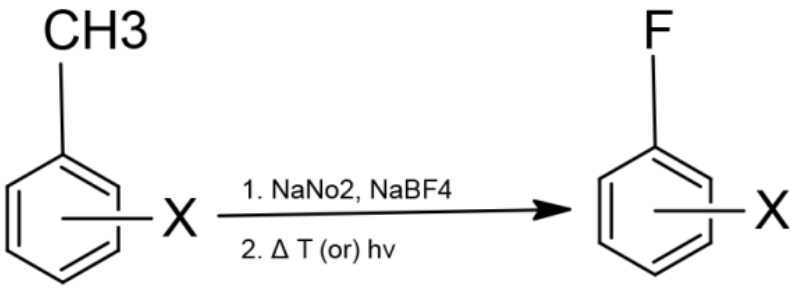
Abstract: ***The DBore Reaction endures as a method for the preparation of (hetero)aryl fluorides yet is eschewed due to the need for harsh conditions or high temperatures along with the need to isolate potentially explosive z-Benzaldoxime. In a departure from these conditions, we show that various organotrifluoroborates (RBF3−s) may serve as fluoride ion sources for solution-phase fluoro-debenzaldoxime in organic solvents under mild conditions.***

Keywords: Sodium tetrafluoroboratetetrafluoroborate, Sodium nitrite, DBore Reaction, Thermal condition, photolytic condition

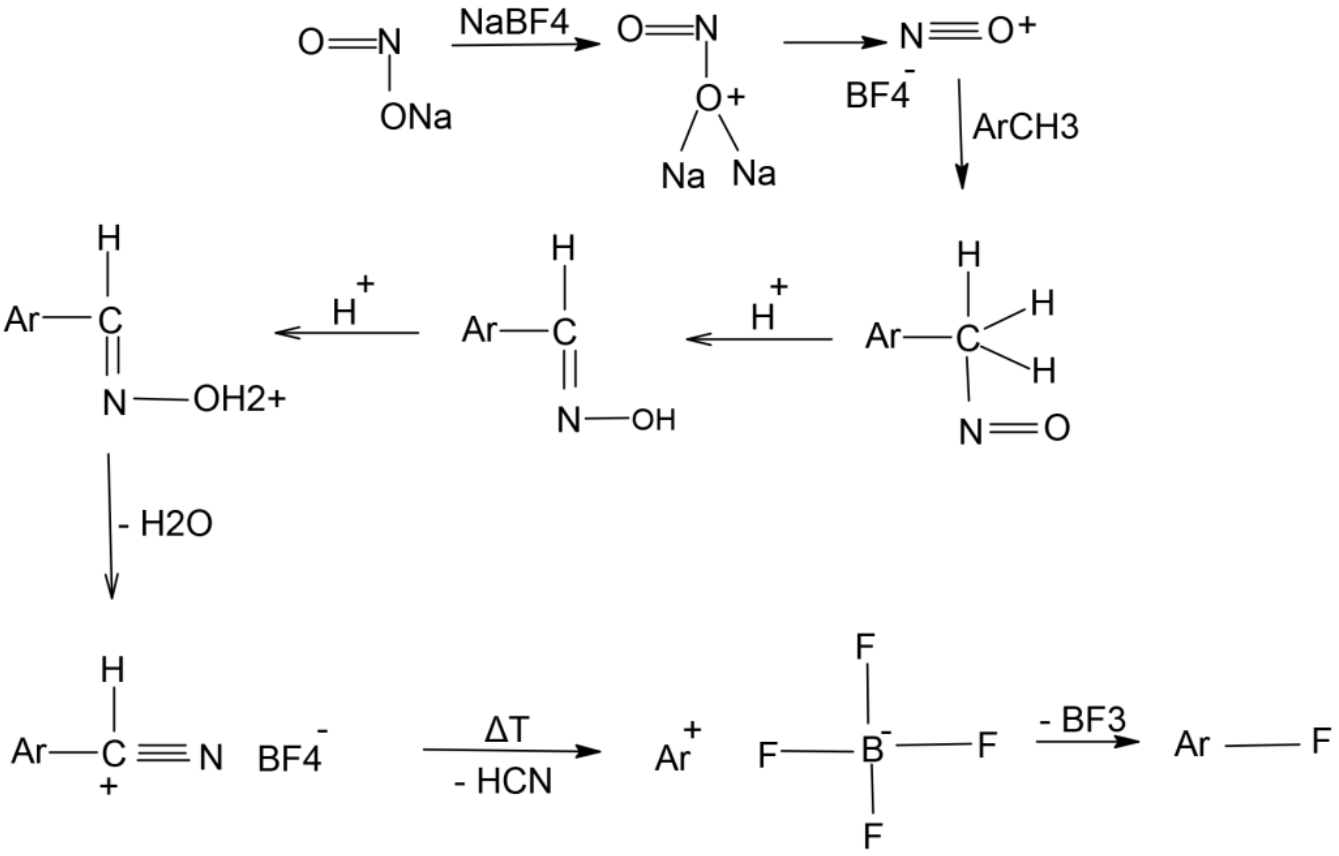
Reaction:



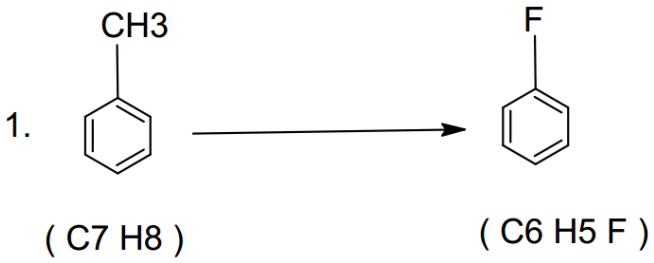
Theory

Benzaldoxime of aromatic methyl in the presence of floroborates followed by Thermal (or) Photolytic condition's to yield aryl fluorides.

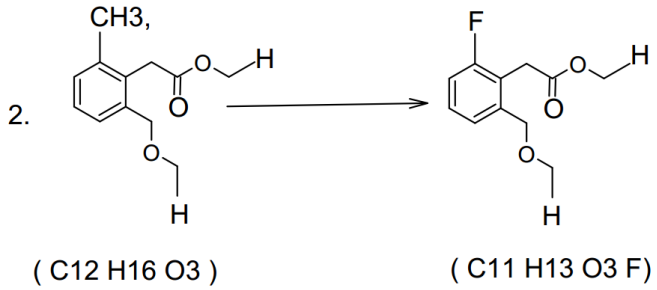
Mechanism



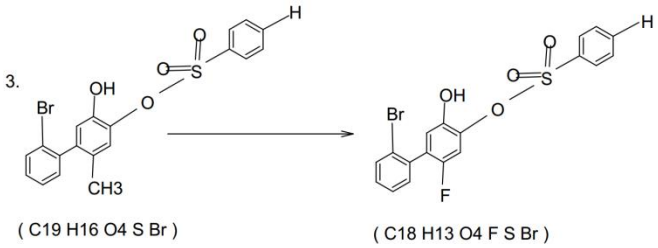
Applications



Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of floroborate's fallowed by ΔT = 1- 10 °C : 3 h (or) Photolytic condition's.



Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of floroborate's fallowed by ΔT = 2 - 20 °C : 3 h (or) Photolytic condition's.



Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of floroborate's fallowed by ΔT = 0 - 50 °C : 1.35 h (or) Photolytic condition's.

Aryl fluorides are formed from Diazotisation of aromatic methyl in the presence of fluroborate's fallowed by ΔT = 10 - 0°C : 1 h (or) Photolytic conditions.

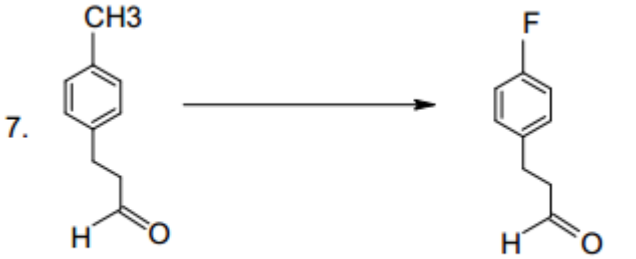
Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborate's fallowed by ΔT = 100°C : 1 h (or) Photolytic conditions.

6.

(C8 H12 Si) (C7 H9 F Si)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborate's fallowed by ΔT = 160°C : 6 h (or) Photolytic conditions.

7.



(C10 H12 0) (C9 H9 O F)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluro borate's fallowed by ΔT = 160°C : 6 h (or) Photolytic conditions.

8.

(C10 H9 N) (C9 H6 N F)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = 0 - 20 °C: 4 h (or) Photolytic conditions.

9.

(C6 H6 O N F3) (C5 H3 O N F4)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = 10 - 0 °C: 1 h (or) Photolytic conditions.

10.

(C6 H7 O N) (C5 H4 O N F)

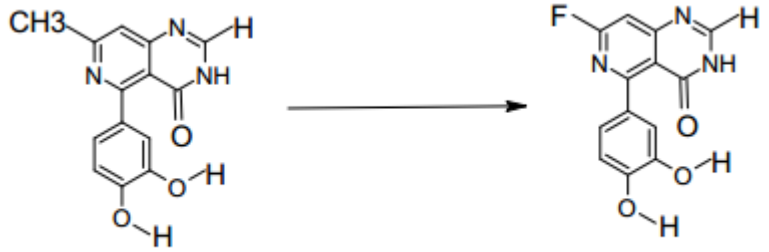
Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = 180 °C: 5 h (or) Photolytic conditions.

11.

(C7 H7 Br) (C6 H4 Br F)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = 120 °C: 6 h (or) Photolytic conditions.

12.



(C14 H11 O3 N3) (C13 H8 O3 N3 F)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = O -50 °C: 1.5 h (or) Photolytic conditions.

13.

(C5 H7 O2 N2) (C4 H4 O2 N2 F)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = O -50 °C: 1 h (or) Photolytic conditions.

14.

(C14 H14) (C13 H11 F)

Aryl fluorides are formed from Diazotization of aromatic methyl in the presence of fluroborates fallowed by ΔT = 20 -50 °C: 3 h (or) Photolytic conditions.

References

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