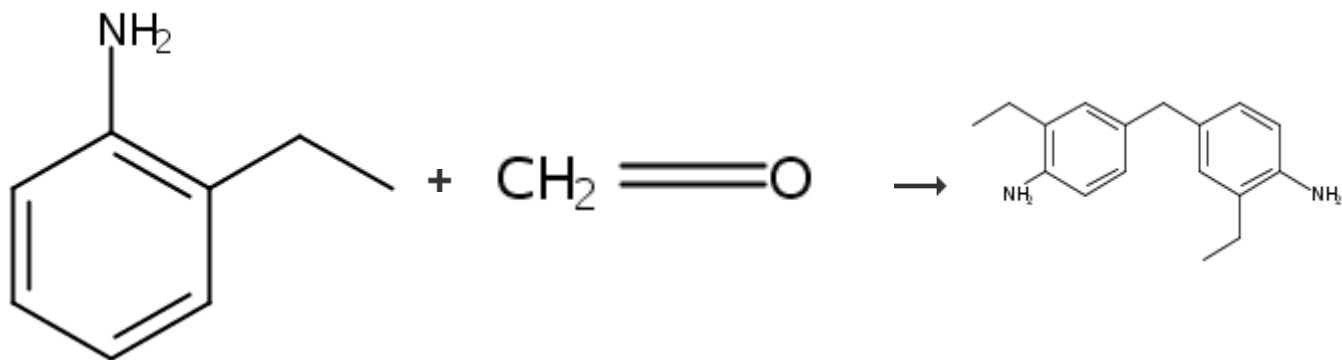


1. Single Step



94%

[Overview](#)

Steps/Stages

- 1.1 C:HCl, S:H₂O, 7 h, rt → 110°C
- 1.2 S:PhMe, S:H₂O, 30 min, 40°C; 2 h, 40°C → 80°C

Notes

regioselective, kaolinite clay added in stage 1, Reactants: 2, Catalysts: 1, Solvents: 2, Steps: 1, Stages: 2, Most stages in any one step: 2

References

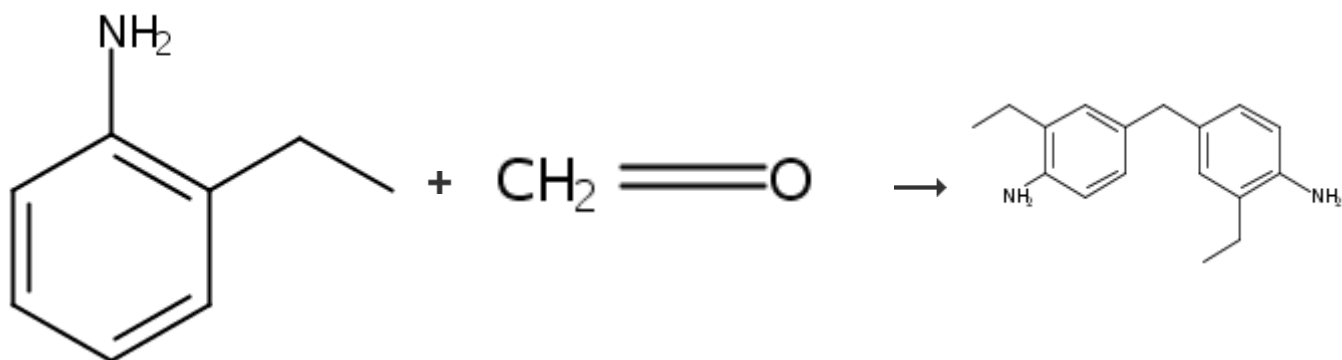
[Process for preparation of 4,4'-diaminodiphenylmethane analogs](#)

By Zhou, Jian

From Faming Zhuanli Shenqing, 102584598, 18 Jul 2012

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2. Single Step



68%

[Overview](#)

Steps/Stages

Notes

- 1.1 R:H₃PO₄ (reaction product with silica), C:SiO₂ phosphoric acid-treated, 24 h, 60°C
 1.2 S:DMF, 4 h, 130°C

green chemistry, paraformaldehyde used,
 Reactants: 2, Reagents: 1, Catalysts: 1,
 Solvents: 1, Steps: 1, Stages: 2, Most stages
 in any one step: 2

References

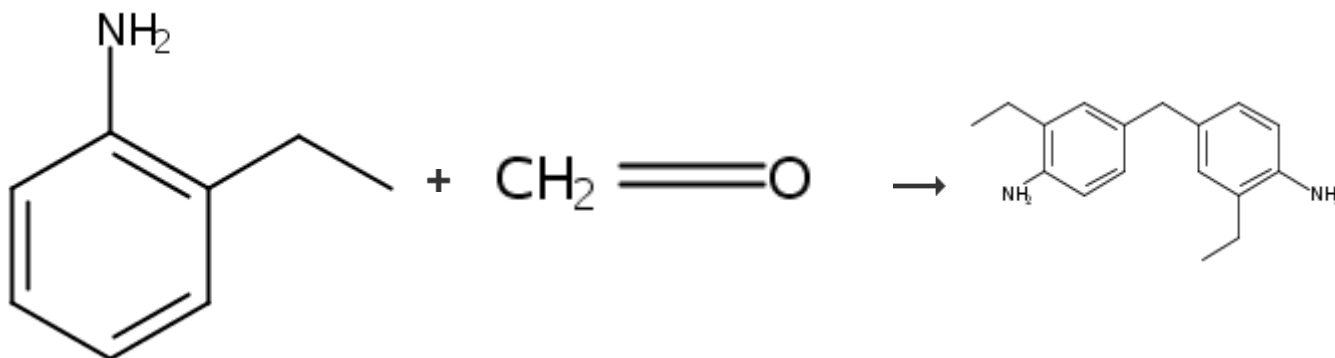
[Preparation of alkyl substituted aromatic diamine in presence of solid acid catalyst](#)

By Li, Dao et al

From Faming Zhuanli Shenqing, 101659617, 03 Mar 2010

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3. Single Step



Overview

Steps/Stages

- 1.1 R:H₂SO₄, S:H₂O, S:PrOH, 3 h, 40°C
 1.2 2 h, 40°C
 1.3 R:NaOH, 0.5 h, 40°C; 0.5 h

Notes

regioselective, optimization study, optimized on the reaction temperature and time,
 Reactants: 2, Reagents: 2, Solvents: 2, Steps: 1, Stages: 3, Most stages in any one step: 3

References

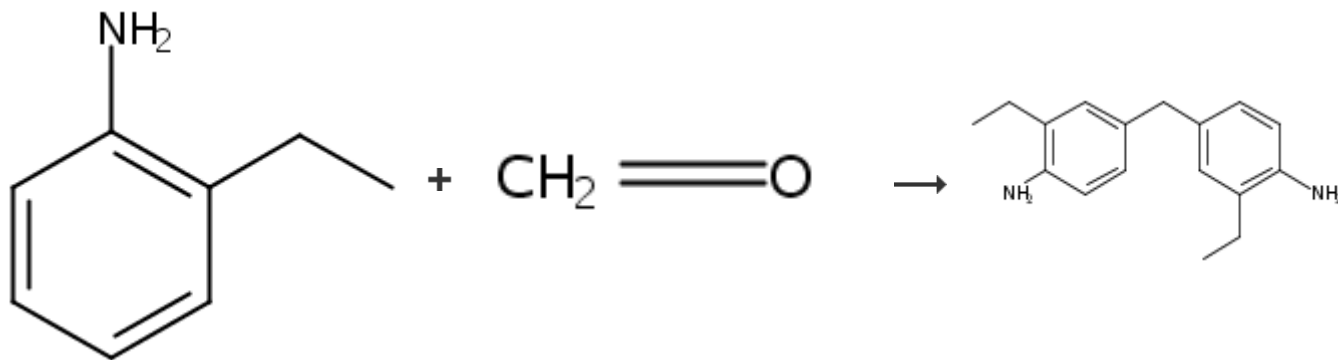
[Process for preparation of 3,3'-diethyl-4,4'-diaminodiphenylmethane](#)

By Hu, Xinmin et al

From Faming Zhuanli Shenqing, 1680277, 12 Oct 2005

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4. Single Step



Overview

Steps/Stages

- 1.1 R:H₂SO₄, S:H₂O, S:EtOH, 1.5 h, 80°C
- 1.2 1 h, 80°C
- 1.3 R:NaOH, 0.5 h, 80°C; 0.5 h

Notes

regioselective, Reactants: 2, Reagents: 2, Solvents: 2, Steps: 1, Stages: 3, Most stages in any one step: 3

References

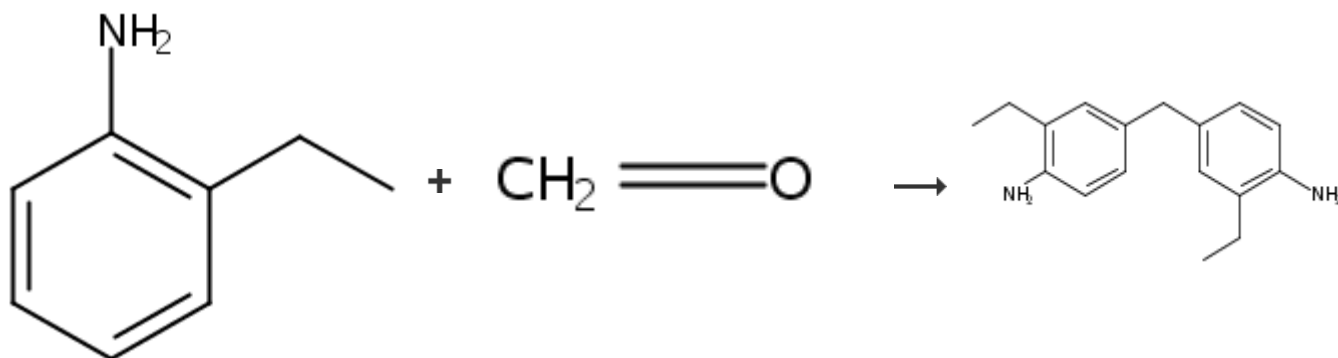
[Process for preparation of 3,3'-diethyl-4,4'-diaminodiphenylmethane](#)

By Hu, Xinmin et al

From Faming Zhuanli Shenqing, 1680277, 12 Oct 2005

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5. Single Step



Overview

Steps/Stages

- 1.1 R:H₂SO₄, S:H₂O, S:MeOH, 2 h, 60°C
- 1.2 2 h, 60°C
- 1.3 R:NaOH, 0.5 h, 60°C; 0.5 h

Notes

regioselective, Reactants: 2, Reagents: 2, Solvents: 2, Steps: 1, Stages: 3, Most stages in any one step: 3

References

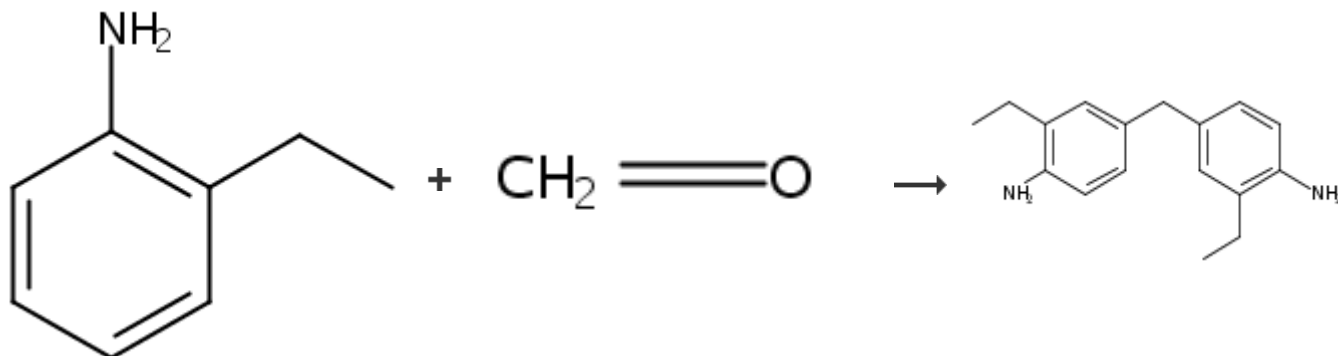
[Process for preparation of 3,3'-diethyl-4,4'-diaminodiphenylmethane](#)

By Hu, Xinmin et al

From Faming Zhuanli Shenqing, 1680277, 12 Oct 2005

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6. Single Step



Overview

Steps/Stages

- 1.1 R:H₂SO₄, S:H₂O, S:Me₂CHOH, 2 h, 50°C
- 1.2 2 h, 80°C
- 1.3 R:NaOH, 0.5 h, 80°C; 0.5 h

Notes

regioselective, optimization study, optimized on the reaction temperature, Reactants: 2, Reagents: 2, Solvents: 2, Steps: 1, Stages: 3, Most stages in any one step: 3

References

[Process for preparation of 3,3'-diethyl-4,4'-diaminodiphenylmethane](#)

By Hu, Xinmin et al

From Faming Zhuanli Shenqing, 1680277, 12 Oct 2005

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