# 1. 2 Steps

$$+ \bigvee_{N \mapsto 1} \bigvee_$$

### Overview

# Steps/Stages

1.1 S:EtOH, 3 h, reflux

2.1 R:CrCl<sub>3</sub>, S:EtOH, 2-3 h, reflux

# **Notes**

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

### References

Structural, DFT and biological studies on Cr(III) complexes of semi and thiosemicarbazide ligands derived from diketo hydrazide

By Yousef, T. A. et al

From Journal of Molecular Structure, 1125, 788-799; 2016

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# 2. Single Step

# Overview

# Steps/Stages

1.1 R:CrCl<sub>3</sub>, S:EtOH, 2-3 h, reflux

### **Notes**

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

# References

Structural, DFT and biological studies on Cr(III) complexes of semi and thiosemicarbazide ligands derived from diketo hydrazide

By Yousef, T. A. et al

From Journal of Molecular Structure, 1125, 788-799; 2016

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### 3. 2 Steps

### Overview

# Steps/Stages

1.1 C:MeOH

2.1

### **Notes**

Reactants: 2, Catalysts: 1, Steps: 2, Stages: 2, Most stages in any one step: 1

### References

1,3-Dipolar additions in germanium series: reaction of nitrilimines, nitrile oxides and nitrones with germanones and germathiones

By Lavayssiere, Helene et al

From Journal of Organometallic Chemistry, 240(4), 335-48; 1982

59%

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### 4. Single Step

# Overview

Steps/Stages Notes

1.1

Reactants: 2, Steps: 1, Stages: 1, Most stages in any one step: 1

### References

1,3-Dipolar additions in germanium series: reaction of nitrilimines, nitrile oxides and nitrones with germanones and germathiones

By Lavayssiere, Helene et al

From Journal of Organometallic Chemistry, 240(4), 335-48; 1982

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# 5. Single Step

### Overview

## Steps/Stages

1.1

#### **Notes**

Reactants: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

### References

1,3-Dipolar additions in germanium series: reaction of nitrilimines, nitrile oxides and nitrones with germanones and germathiones

By Lavayssiere, Helene et al

From Journal of Organometallic Chemistry, 240(4), 335-48; 1982

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# 6. Single Step

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# Overview

# Steps/Stages

1.1

### **Notes**

Reactants: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

### References

1,3-Dipolar additions in germanium series: reaction of nitrilimines, nitrile oxides and nitrones with germanones and germathiones

By Lavayssiere, Helene et al From Journal of Organometallic Chemistry, 240(4), 335-48; 1982

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# 7. Single Step

### Overview

Steps/Stages Notes

Reactants: 1, Catalysts: 1, Steps: 1, Stages: 1, Most stages in any one step: 1

### References

1,3-Dipolar additions in germanium series: reaction of nitrilimines, nitrile oxides and nitrones with germanones and germathiones

By Lavayssiere, Helene et al

From Journal of Organometallic Chemistry, 240(4), 335-48; 1982

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# 8. Single Step

C:MeOH

#### Overview

# Steps/Stages

1.1

#### **Notes**

Reactants: 2, Steps: 1, Stages: 1, Most stages in any one step: 1

27%

### References

1,3-Dipolar cycloadditions on diorganogermanium oxides and sulfides

By Lavayssiere, Helene et al

From Angewandte Chemie, 94(6), 455; 1982

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