

## Englisch

### Hinweise:

- Es ist auf eine gut lesbare und saubere Darstellung zu achten
- Jede Aufgabe ist direkt auf das Aufgabenblatt in dem dafür vorgesehenen Feld zu lösen
- Erlaubte Hilfsmittel: Gedrucktes oder elektronisches Wörterbuch ohne Übersetzungsprogramm
- Die Punktzahl von Teil 1 beträgt 40 und 35 für Teil 2 (Teil 1 zählt 2/3, Teil 2 zählt 1/3 der Note); Es gilt der Notenschlüssel der Expertengruppe
- Prüfungszeit: 60 Minuten (Teil 1 ca. 40 Minuten, Teil 2 ca. 20 Minuten)

***Die Expertengruppe wünscht Ihnen gutes Gelingen und viel Erfolg!***

Name, Vorname:

Note

### Teil 1: Übersetzung englischer Fachtext ins Deutsche

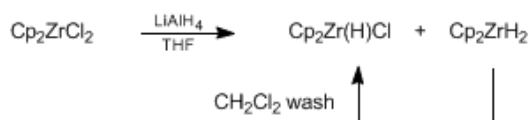
Bitte übersetzen Sie den Text der Originalliteratur auf der 2. Seite und schreiben Sie die Übersetzung auf die 4. Seite und deren Rückseite.

- Hinweise :*
- 1. Die Übersetzung beginnt mit 1. Procedure.*
  - 2. Jeder übersetzte Satz muss auf einer neuen Zeile begonnen werden.*

*Organic Syntheses, Coll. Vol. 9, p.162 (1998); Vol. 71, p.77 (1993).*

## SCHWARTZ'S REAGENT

### [Zirconium, chlorobis( $\eta^5$ -2,4-cyclopentadien-1-yl)hydro-]



### 1. Procedure

**CAUTION!** The washing procedure described in (Note 8) should be followed carefully. On one occasion, allowing a contact time of ca. 1 hr while attempting to use a cannula filter to remove the methylene chloride led to an exothermic decomposition reaction.

To a dry, 1-L Schlenk flask equipped with a magnetic stirring bar is added under argon zirconocene dichloride (100 g, 0.342 mol) (Note 1), followed by dry tetrahydrofuran (650 mL) (Note 2).

Dissolution of the solid is accomplished by gentle heating with a heat gun.

To the solution at ~35°C (Note 3) is added dropwise, over a 45-min period, a filtered solution (Note 4),(Note 5) of lithium aluminum hydride (3.6 g, 94 mmol) (Note 4) in ethyl ether (100 mL) (Note 6),(Note 7).

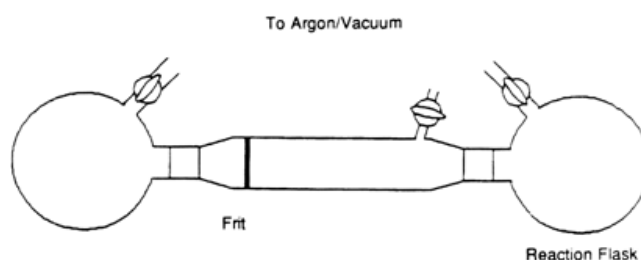
The resulting suspension is stirred at room temperature for 90 min.

The mixture is then Schlenk-filtered (Figure 1) under argon using a "D" frit.

The resulting white solid is washed with tetrahydrofuran (4 × 75 mL), methylene chloride (2 × 100 mL) (Note 8) with stirring or agitation of the stirbar immersed in the slurry, and then with ether (4 × 50 mL).

The resulting white solid is dried under reduced pressure to give a white powder (Note 9), 66 g, 75% yield (Note 10).

Figure 1



### 2. Notes

1. Zirconocene dichloride is purchased from Boulder Scientific Co., and used without any further purification.
2. Tetrahydrofuran is distilled from sodium/benzophenone ketyl under argon at atmospheric pressure immediately before use.
3. Crystallization occurs if the temperature is allowed to fall below 35°C. The reaction can be conducted successfully even if a small amount of solid forms.
4. This solution is prepared by adding lithium aluminum hydride to ethyl ether, stirring the suspension for 10 min, and allowing the undissolved material to settle to the bottom of the flask.
6. A slightly exothermic reaction results that maintains the temperature of the reaction mixture at ~35°C during the addition.
8. Methylene chloride is distilled from calcium hydride under argon at atmospheric pressure immediately before use. It is important to keep the methylene chloride wash in contact with the Schwartz's Reagent for a maximum period of 10 min; use of a frit filter.

## Teil 2: Grammatik

### 1. Aufgabe (6 Punkte)

Fill in the gap with an appropriate word completing an English idiom:

He fell head over \_\_\_\_\_ in love. Young people drive at \_\_\_\_\_ speed. He pulls his teacher's \_\_\_\_\_. Her \_\_\_\_\_ is on the floor. She's a \_\_\_\_\_ in the neck! She's got her head in the \_\_\_\_\_.

### 2. Aufgabe (20 Punkte)

Present simple or continuous / past simple or continuous? Fill in the correct time using the verb in brackets.

- 1 It's usually dry here. It \_\_\_\_\_ (not / rain) much.
- 2 The phone \_\_\_\_\_ (ring) three times while we \_\_\_\_\_ (have) dinner last night.
- 3 I \_\_\_\_\_ (get) hungry - let's \_\_\_\_\_ (go) and have something to eat.
- 4 Catherine \_\_\_\_\_ (wait) for me when I \_\_\_\_\_ (arrive).
- 5 The weather was horrible when we \_\_\_\_\_ (arrive). It was cold and it \_\_\_\_\_ (rain) very hard.
- 6 Why \_\_\_\_\_ (you / look) at me like that? What's the matter?
- 7 Linda was busy when we \_\_\_\_\_ (go) to see her yesterday. She had an exam today and \_\_\_\_\_ (prepare) for it. We \_\_\_\_\_ (not / want) to disturb her, so we \_\_\_\_\_ (not / stay) very long.
- 8 When I first \_\_\_\_\_ (tell) Tom the news, he \_\_\_\_\_ (not / believe) me. He \_\_\_\_\_ (think) that I \_\_\_\_\_ (joke). But I \_\_\_\_\_ (not ...).

### 3. Aufgabe (9 Punkte)

Put the verb into the passive form.

- 1 There's somebody behind us. I think we \_\_\_\_\_ (follow).
- 2 A mystery is something that \_\_\_\_\_ (not / can / explain).
- 3 The television \_\_\_\_\_ (repair). It's working again.
- 4 We didn't play football yesterday. The match \_\_\_\_\_ (cancel).
- 5 If I didn't do my job properly, I \_\_\_\_\_ (would / sack).
- 6 After \_\_\_\_\_ (arrest), I was taken to the police station.
- 7 " \_\_\_\_\_ (you / ever / arrest)?" "No, never."
- 8 Two people \_\_\_\_\_ (report) to \_\_\_\_\_ (injure) in an explosion.

Punkte Teil 2

Note Teil 2

**Name, Vorname:**

**Punkte Teil 1**

**Note Teil 1**

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**Deutsche Übersetzung (Teil 1):**