C, D

I:

刘建平

(650991)

(1-3)

GA3

GA4, GA7

(acylone rearrangement)

GA3

(4)

1. CH2N2
2. PhCOCl
Et3N

1. Ac2O/Et3N
2. O3/DCM, Et3N

(3)

K2CO3

KHCO3

PhCO2

OH

PhCO2

CO2Me

OH

PhCO2

CO2Me

 OH

Perkin- Elmer 683

CHCl3

Varian Gemini 300

1

( V max)
Tab. 1 The conditions for the acyloin rearrangement

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<tr>
<th></th>
<th></th>
<th>t/℃</th>
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<td>n- BuLi</td>
<td>THF</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>t- BuOK</td>
<td>t- BuOH</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>t- BuOK</td>
<td>THF</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>DBU</td>
<td>THF</td>
<td>67</td>
<td>B</td>
</tr>
<tr>
<td>DBU</td>
<td>CH₂Cl₂</td>
<td>40</td>
<td>B</td>
</tr>
<tr>
<td>K₂CO₃</td>
<td>DMF</td>
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<td>B</td>
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<tr>
<td>K₂CO₃</td>
<td>DMF</td>
<td>150</td>
<td>A</td>
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<tr>
<td>NaH</td>
<td>THF</td>
<td>0~ 20</td>
<td>C</td>
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<tr>
<td>NaH</td>
<td>Et₂O</td>
<td>20</td>
<td>B</td>
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<tr>
<td>NaH</td>
<td>CH₂Cl₂</td>
<td>20~ 40</td>
<td>68%*</td>
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<td>CH₂Cl₂</td>
<td>20~ 83</td>
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<tr>
<td>LiH</td>
<td>CH₂Cl₂</td>
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MeOH/ EtOH (), 3- C, D (9).
Studies on the C, D ring rearrangement of gibberellin derivative I: studies on the conditions of acyloin rearrangement

LIU Jiaping
(The School of Pharmacy, Yunnan University, Kunming 650091, China)

Abstract: The acyloin rearrangement reaction of C, D ring of gibberellin derivative (4) with bases in different solvents was studied and 68% yield was achieved when the corresponding GA ketone (4) was treated with sodium hydroxide in dichloromethane at room temperature.

Key words: gibberellin; acyloin rearrangement; structural determination

The physical characters of strong black hole (primordial black hole)

ZHOu Xurui\textsuperscript{1, 2}, JIAO Shuqing\textsuperscript{1}
(1. Applied Physics Department, South West Jiaotong University, Chengdu 610031, China;
2. Department of Physics, Sichuan Normal College, Nanchong 637002, China)

Abstract: The strong black hole (primordial black hole) created from the Early Universe has been discussed about its temperature and energy density and considered to be composed of a large number of microquarks in super-high dense state with high temperature and statistical thermal equilibrium. The calculation about its lifetime, duration time of explosion and energy emission rate shows that the strong black hole is probably the best candidate to ultra-high energy gamma-ray bursts. The obvious difference of physical property between the nucleons of the early universe and the current stage has been discussed and the non-consistent pattern in mass and radius formula of Astroparticle has been explained in this paper.

Key words: violent expansion of the universe; strong black hole (primordial black hole); super-high dense state with high temperature; statistical thermal equilibrium; ultra-high energy gamma-ray bursts