

• 1.

. . **(1** ) – 2,5 .

. (2

• 3.

• 3. ( ).

• 1.

• **2**.

• 3.

• 3.1.

• 3.2.

• 3.3.

• 3.4.

• 4.

• **5**.

• 6.

```
Si— . (
                                        Si,
• 1) "
                    Si;
• 2)
```

```
(
)
SinH<sub>2n+2</sub>, n<10.
```

SiH4,

Si

Si

• (CH<sub>3</sub>)<sub>2</sub>Si Cl -

• CF<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>SiCl<sub>3</sub> - 3,3,3-

**RnSiHal4-n** (n=1-3) CH<sub>3</sub> Cl—Si—Cl  $CH_3$ a - ,) Si(OR)4; Si(OCH<sub>3</sub>)<sub>4</sub>

```
RnSiH4-n;
                              ( -C<sub>3</sub>H<sub>7</sub>)<sub>2</sub>SiH<sub>2</sub>
• CH<sub>3</sub>SiH<sub>3</sub>
                         • (RO)nSiX4-n
• (C2H5O)2SiCl2
                                           RnSi(NR'2)4-n;
                                     RnSi(OH)4-n.
```

```
Si:
         (Si— —Si) -
       (Si—N—Si),
         (Si—S—Si),
          (Si—Si),
Si— —Si
```

• **2**.

Si

•

,

• 3.

Si (1,74)

d-

```
Si
          6.
     Si
                 (0,133)
(0,077);
```

Si-

Si—Hal, Si— , Si—N, Si— H, Si-O—H, Si—Si . . . . . . . .

Si (R3SiCH2CI, R3SiCH=CH2).

Si—

•

• Si— - 4 9 218

Si— 6 5 310 /
Si—CH3 314 /
Si— 2 5 260 /
Si— - 3 7 239 /

3.1.

```
Si
            Si—H, Si—Si -
3.2.
                        Si
```

## R<sub>3</sub>SiX + 2O → R<sub>3</sub>SiOH +

X= I, OR', OCOR', NR'2, SR'

$$n \quad \begin{array}{c} \text{CH}_{3} \\ \text{N} \quad \text{Cl} \quad \text{Si-Cl} \\ \text{CH}_{3} \\ \text{CH}_{3} \end{array} \longrightarrow n \quad \begin{array}{c} \text{CH}_{3} \\ \text{HO-Si-OH} \\ \text{CH}_{3} \\ \end{array}$$

```
Si,
pH
      X=CI, OCH3, OCOCH3, NR2, SR
 R_3SiX + 2NaOH \rightarrow R_3SiONa + 2.
```

•

".

Si—H, Si—Si

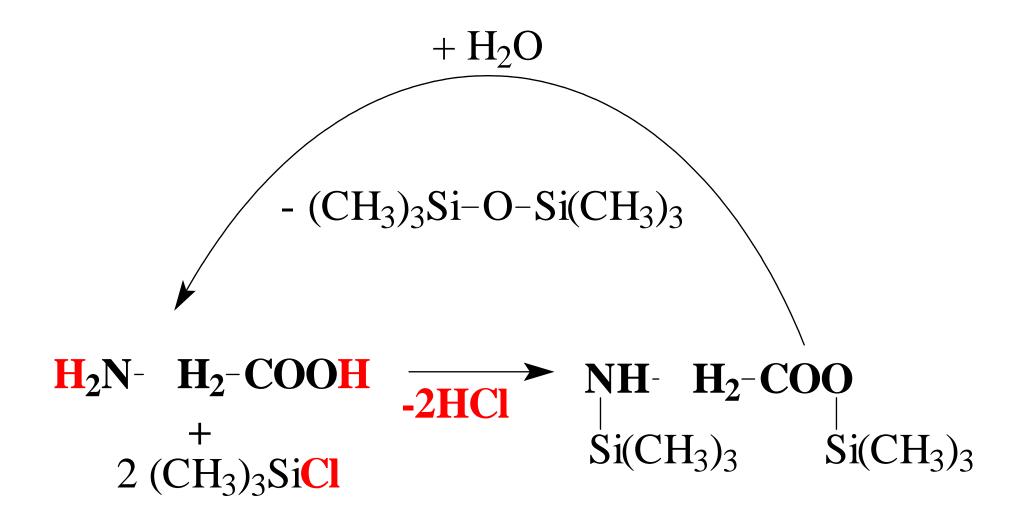
-

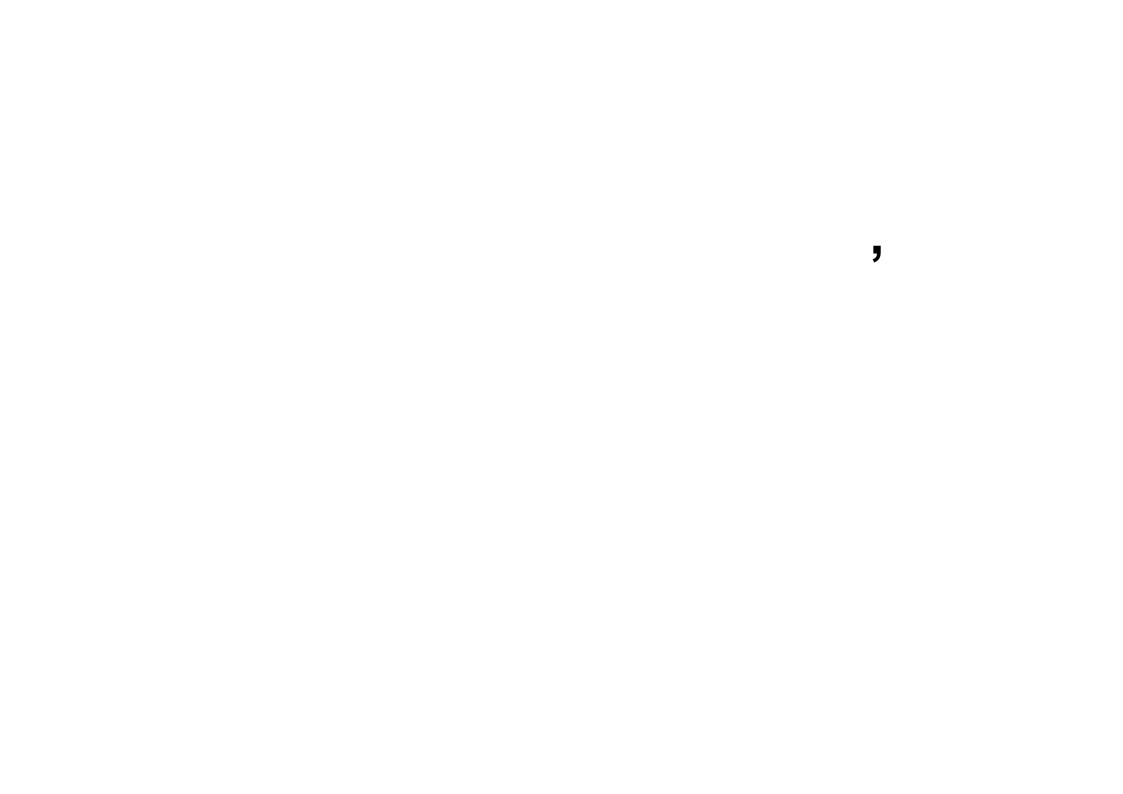
Si

**3.3.** -

(CH<sub>3</sub>)<sub>3</sub>Si-

(CH<sub>3</sub>)<sub>3</sub>SiX, X = CI, N(C<sub>2</sub>H<sub>5</sub>)<sub>2</sub>,





```
3.4.
Si
                                                        SiO<sub>2</sub>.
                                  Si
                                                 H<sub>2</sub>SO<sub>4</sub> HNO<sub>3</sub>)
•
                                                                                      Na<sub>2</sub>O<sub>2</sub>
11
                     •
                                         ). Si
SiO<sub>2</sub>
```

```
Si
       SIOH
                        SiCI4;
SiCI - o
AgCI
                                AgNO<sub>3</sub>;
SiNH2, SiNHR, SiNR2 - o
               NH3
```

HCI,

```
SiH - 0 (II)

NaOH/
Si—Si 2

NaOH/
```

4.

--• • 

7 , , 7 

, - - - ;

( 400°);

**5.** 

1)();

2)

3)

1) (

( -135 300°),

6 5-

1000-2000), ( 400°),

300°.

**,** 

-

3.

( 3-).

,

,

SiO<sub>2</sub>

, ,

**6.** 

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,

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( , , ,

, p