

**Figure 1**



**Figure 2**



Figure 3

 

 a 1573K b 1673K

**Figure 4**



**Figure 5**

 

1. 5min b. 15min

**Figure 6**



**Figure 7**

** **

a with 10% excess carbon b with 20% excess carbon

**Figure 8**



a early stage



b later stage

**Figure 9**