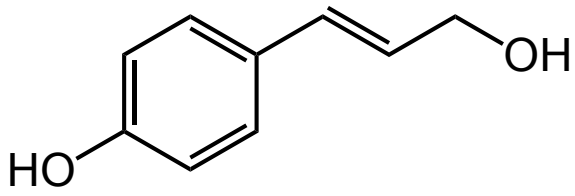
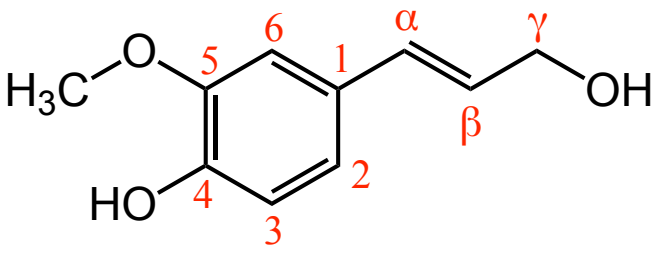
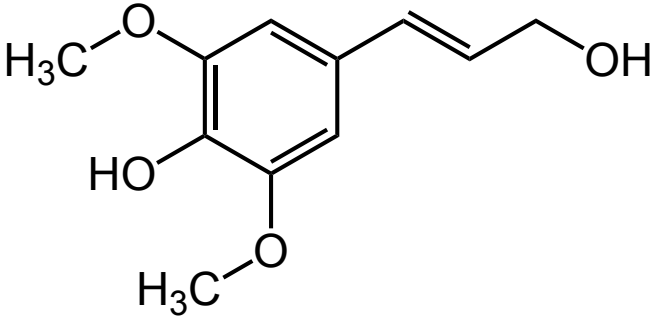
1


HO
OH

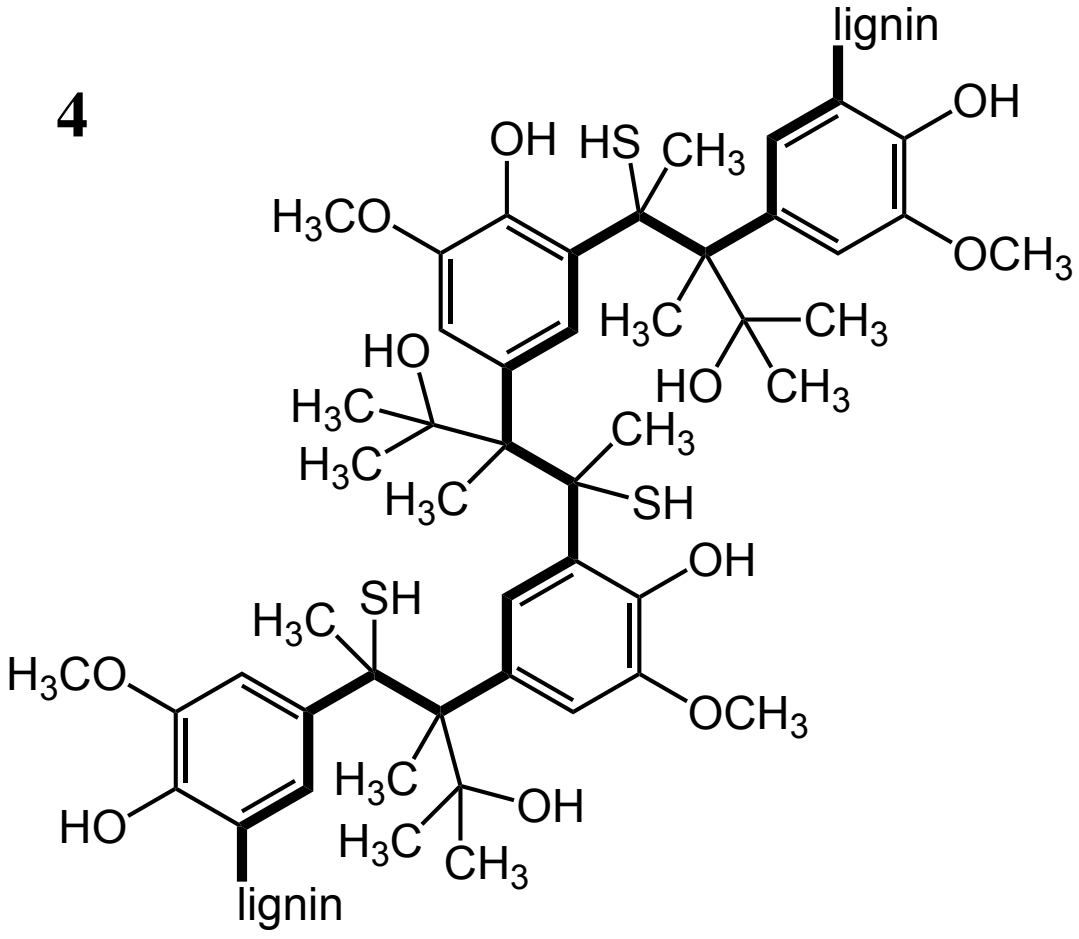
2


H3C
O
5
6
1
α
γ
OH
β
HO
4
2
3

3


H3C
O
OH
HO
H3C
O

4


lignin
OH
HS
CH3
H3CO
OCH3
H3C
CH3
HO
CH3
HO
H3C
H3C
H3C
CH3
SH
OH
H3C
SH
H3CO
OCH3
H3C
OH
HO
H3C
CH3
lignin