## Spectral problem 1



${ }^{13} \mathrm{C}-\mathrm{NMR}: ~ \delta 22.1,25.4,28.9,58.3,207.1$.

## Spectral problem 2





300
${ }^{200}$ NICOLET 205X FT-I日 $-200^{-20}$

## Spectral problem 3: MS <br> MASS SPECTRUM




## Spectral problem 4: MS MASS SPECTRUM



## Spectral problem 4: IR/NMR <br>  <br>  <br>  <br>  <br> n NEAT <br>  <br>  <br> 

## Spectral problem 5: MS <br> MASS SPECTRUM


Spectral problem 5: IR/NMR $\begin{array}{lllllllllll}100 & 1 & 2 & 3 & 4 & 5 & 6 & 1 & 8 & 9 & 10\end{array}$

${ }^{13}$ C NMR: 137.4,
128.4, 127.7, 126.2,
121.7, 16.6


