

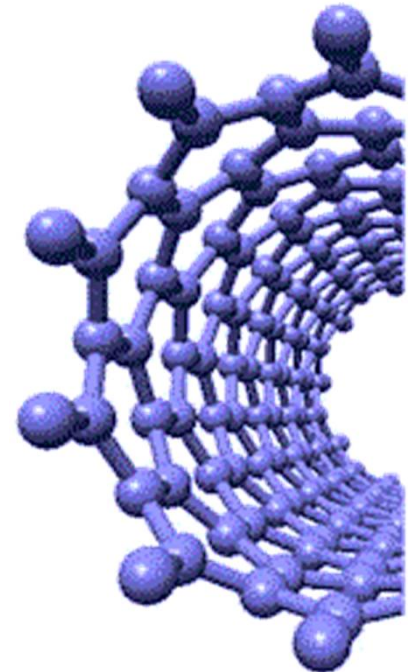


INVESTMENTS IN EDUCATION DEVELOPMENT

Innovation and Development of Study Field Nanomaterials at the Technical University of Liberec

nano.tul.cz

These materials have been developed within the ESF project: Innovation and development of study field Nanomaterials at the Technical University of Liberec



TECHNICAL UNIVERSITY OF LIBEREC
www.tul.cz

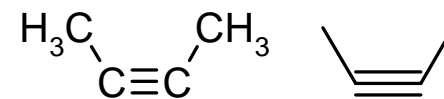
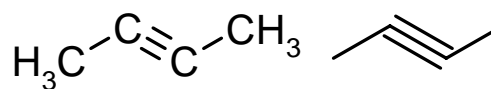
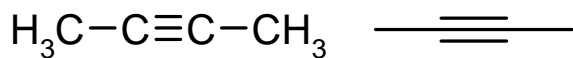
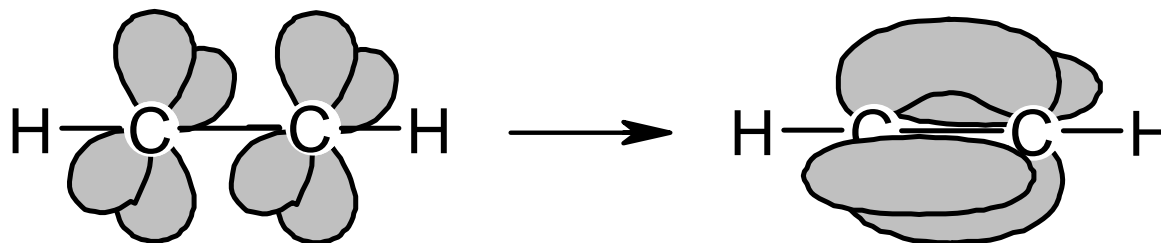




Organic Chemistry I – Chapter 6



Alkynes – structure and reactions, C - acidity



good

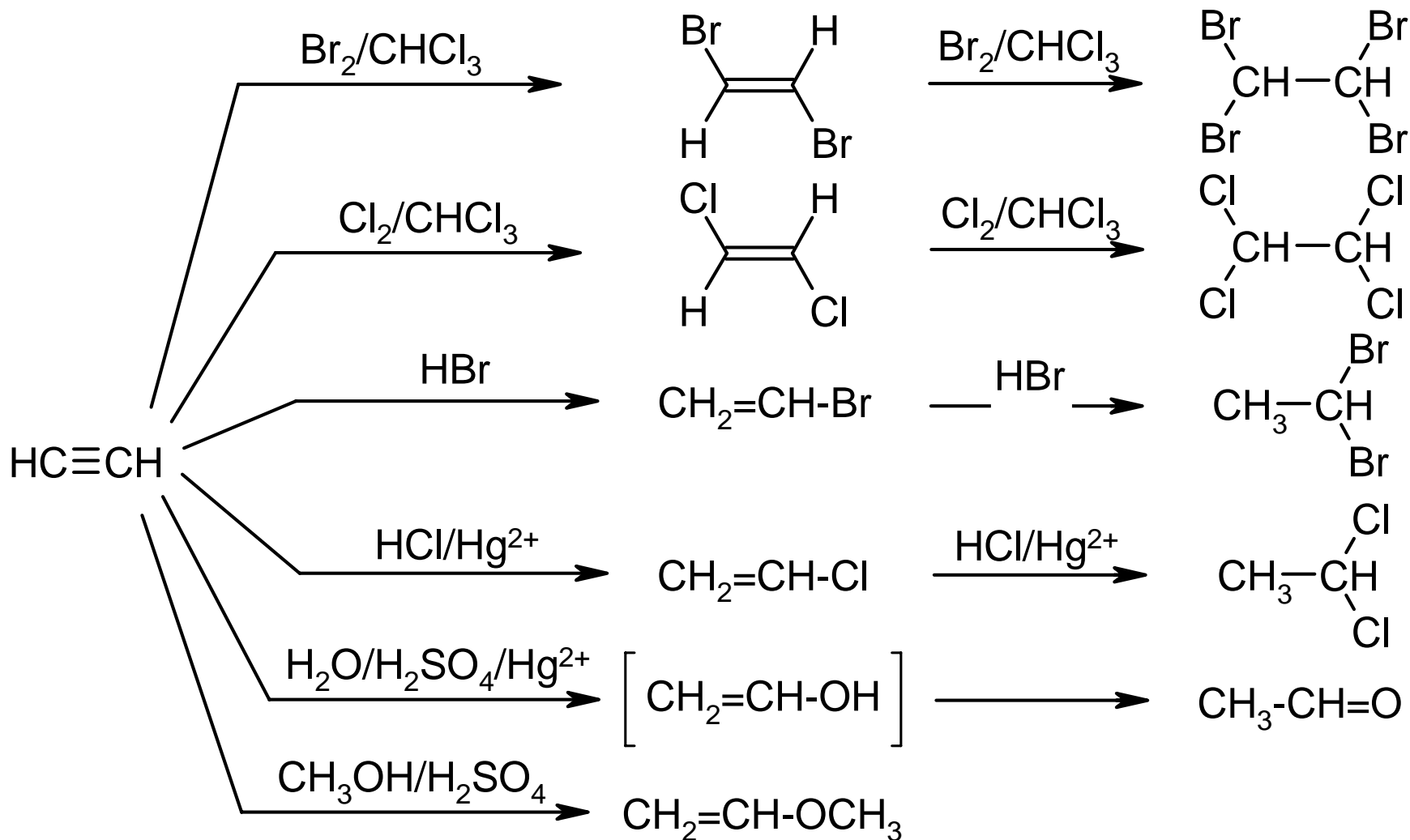
!!! wrong !!!



Organic Chemistry – functional groups



Alkynes – reactions – additions electrophilic

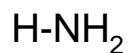
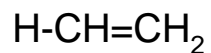
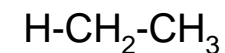
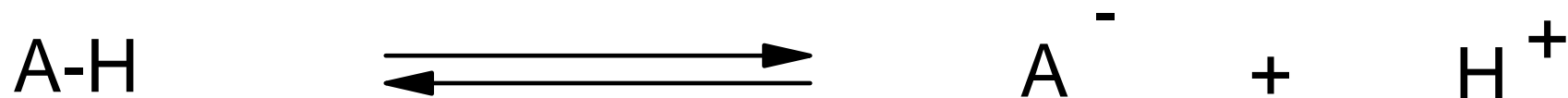




Organic Chemistry – functional groups



Alkynes – acidity



ethane
 $\text{p}K_a \sim 62$

ethylene
 ~ 45

amoniak
 ~ 36

acetylene
26

water
15,7

the weakest

acid

the strongest

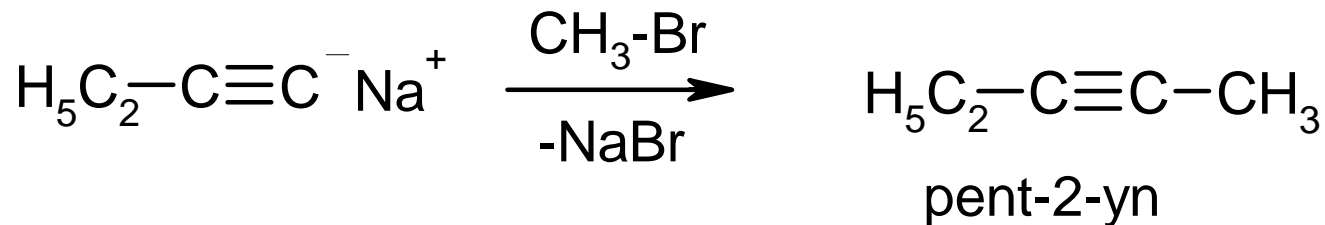
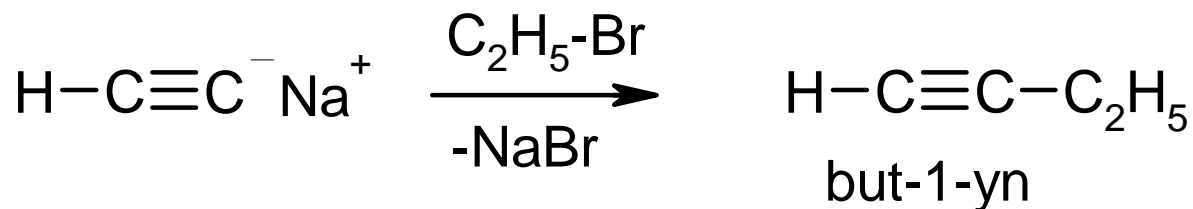
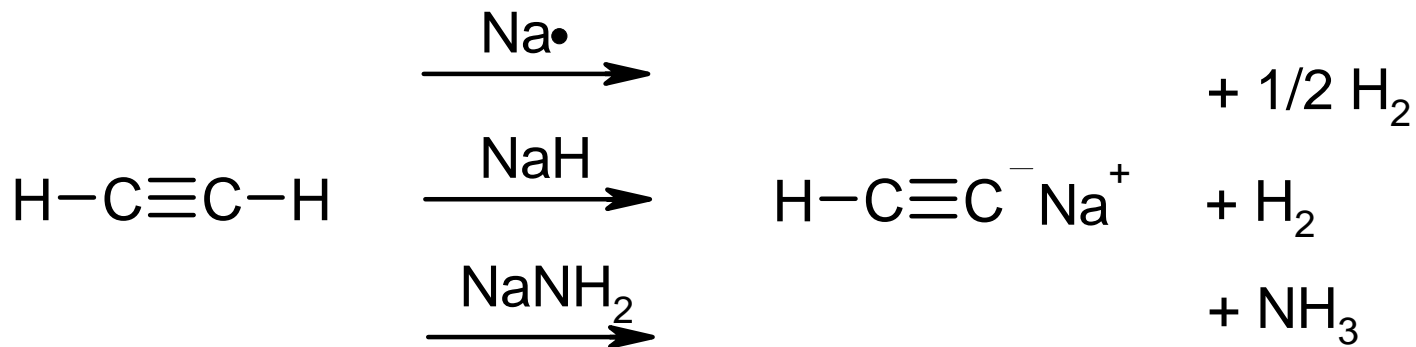
3



Organic Chemistry – functional groups

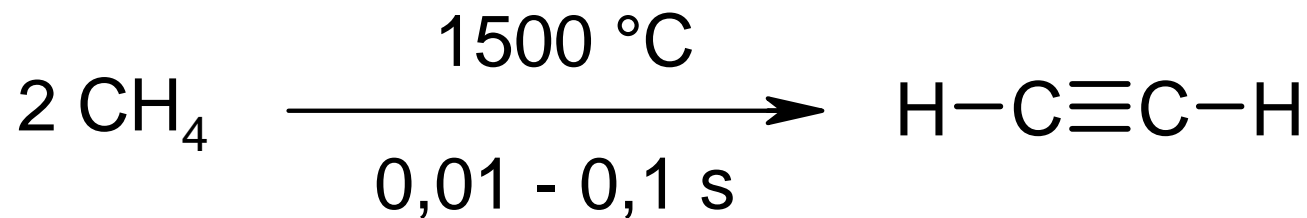
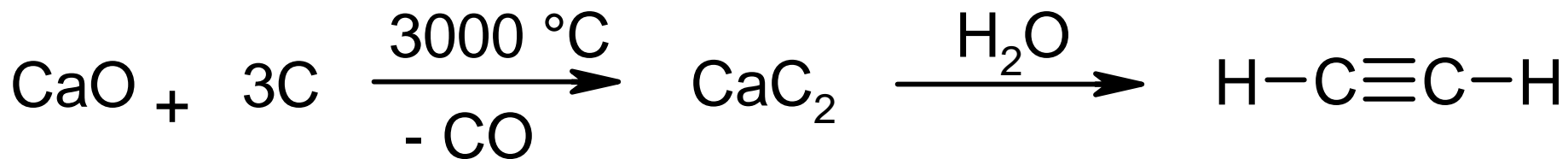


Alkynes – acidity – synthetic application





Alkynes – acetylene production and application



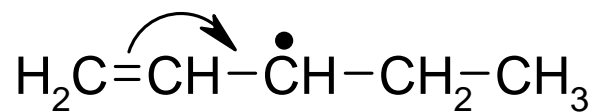
$$\Delta H = -1300\text{ kJ/mol}$$



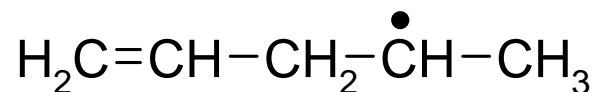
Organic Chemistry – functional groups



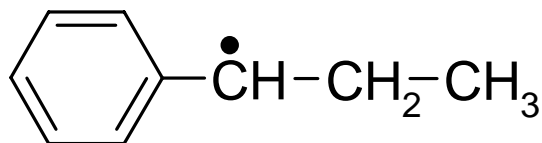
Allyl and benzyl – important structures



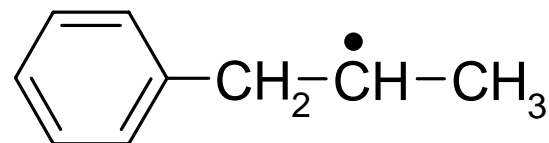
stable allyl radical



less stable non-conjugated radical



stable benzyl radical



less stable non-conjugated radical

Allyl and benzyl – the same for cations