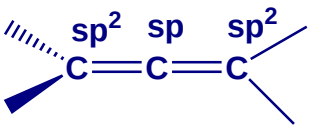
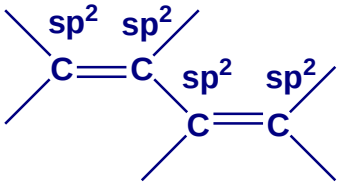
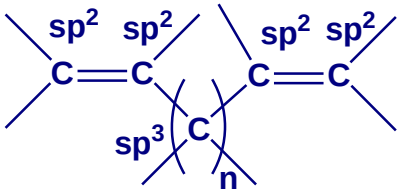
Dieny



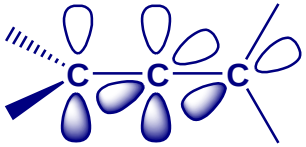
allen skumulowany

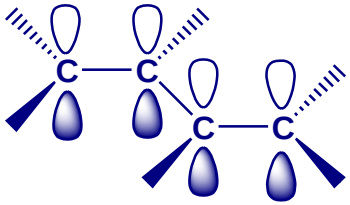


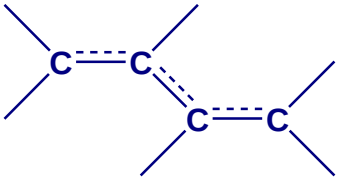
dien sprzężony



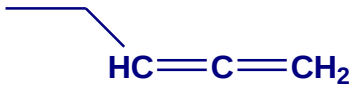
dien izolowany





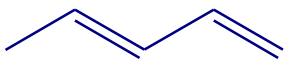


Ciepło uwodornienia do pentanu



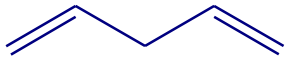
penta-1,2-dien

-292 kJ/mol



penta-1,3-dien

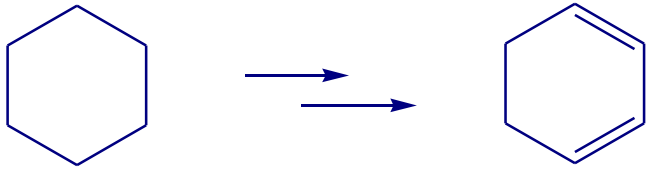
-225 kJ/mol



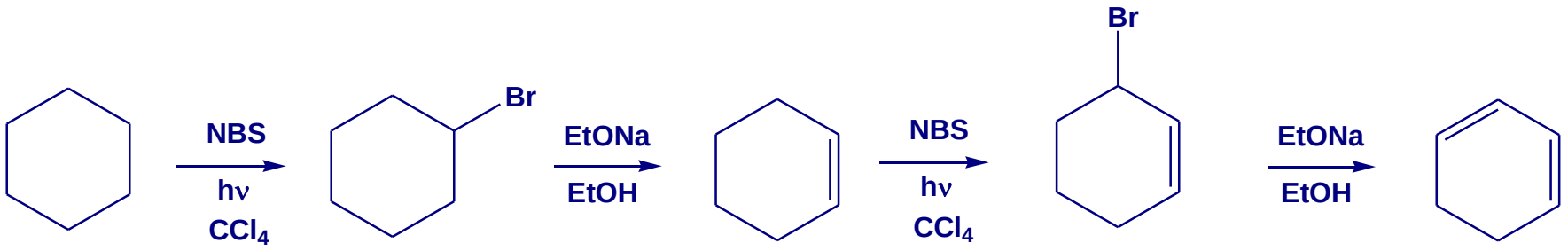
penta-1,4-dien

-252 kJ/mol

Otrzymywanie dienu sprzężonego

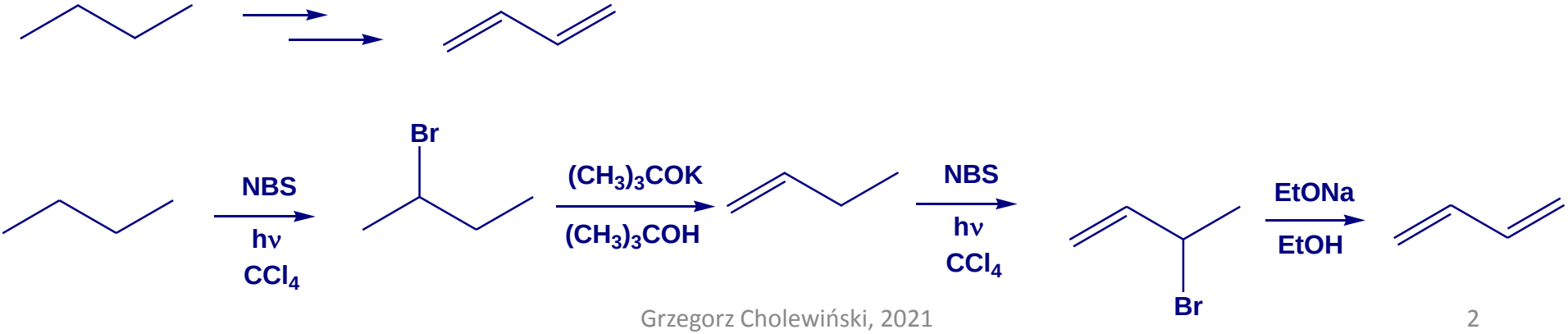


cykloheksan — cykloheksa-1,3-dien

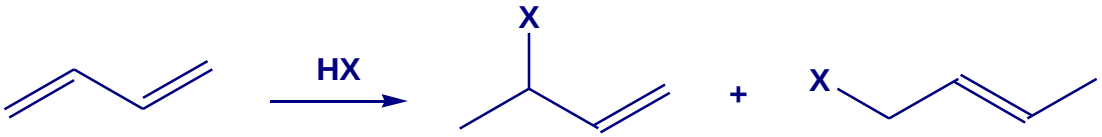


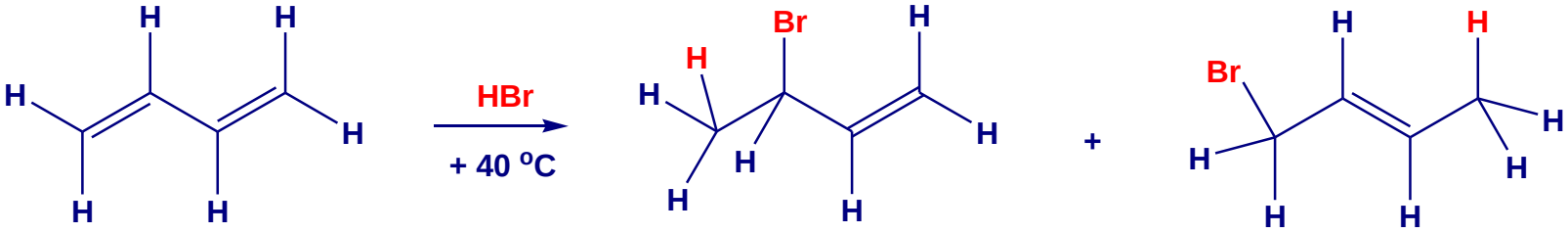
3-bromocykloheksen

Synteza buta-1,3-dienu z butanu



Addycja halogenowodoru do dienu sprzężonego





buta-1,3-dien

3-bromobut-1-en

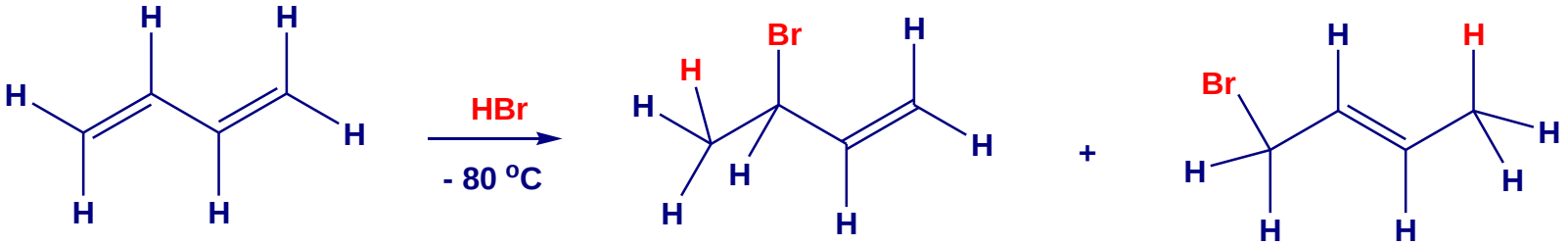
20 %

addycja 1,2

1-bromobut-2-en

80 %

addycja 1,4



buta-1,3-dien

3-bromobut-1-en

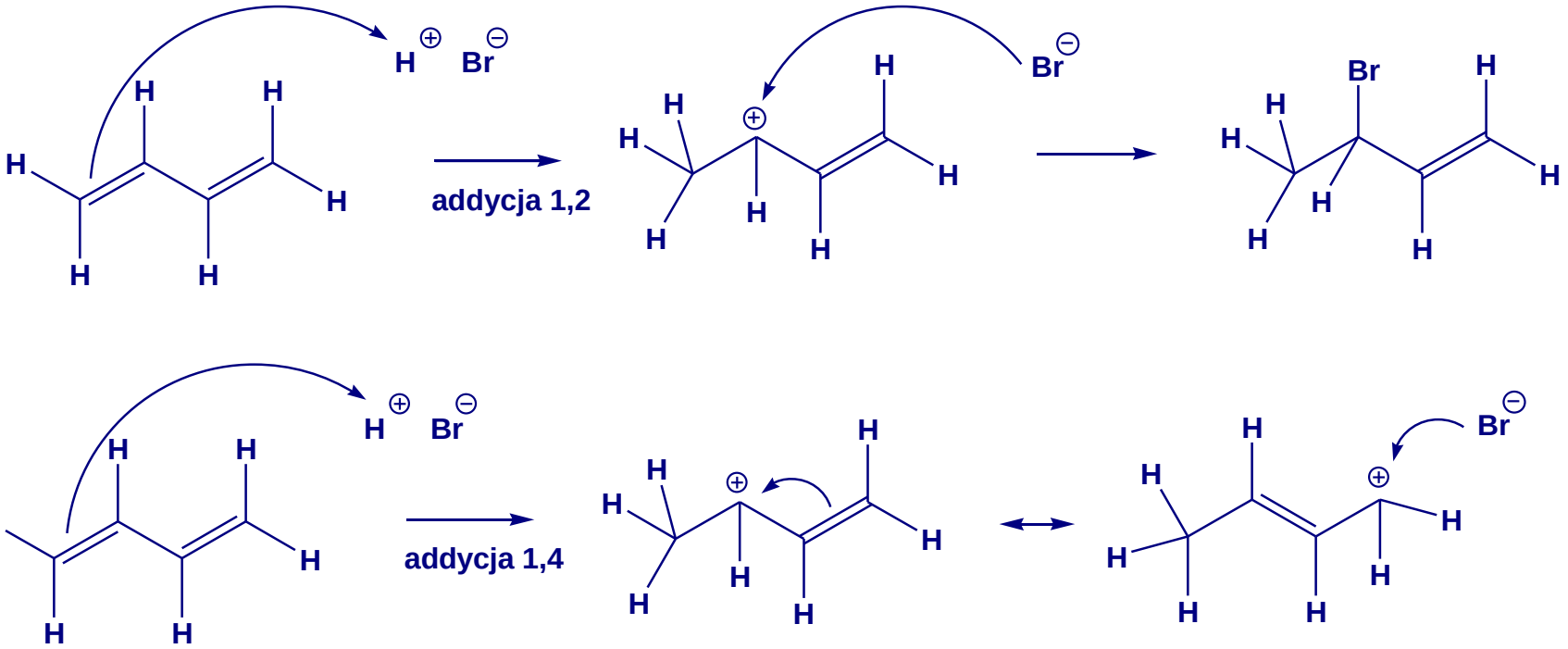
80 %

addycja 1,2

1-bromobut-2-en

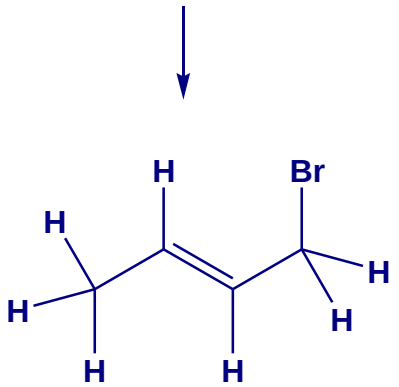
20 %

addycja 1,4

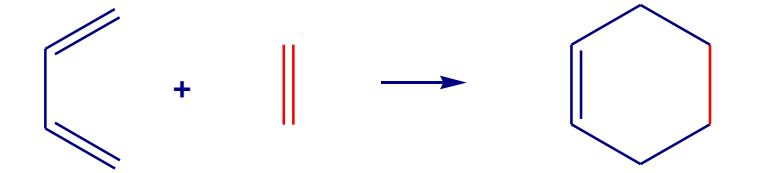


Addycja 1,2: trwalszy karbokation – niższa energia aktywacji, kontrola kinetyczna

Addycja 1,4: trwalszy produkt końcowy (reguła Zajcewa), kontrola termodynamiczna



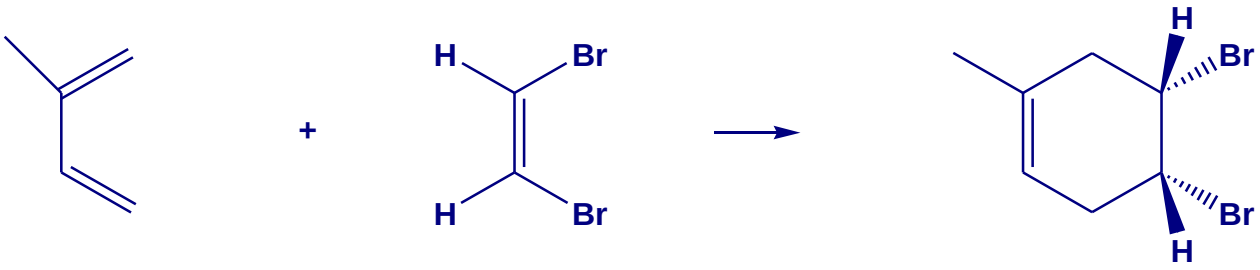
Reakcja Dielsa - Aldera



buta-1,3-dien **eten** **cykloheksen**

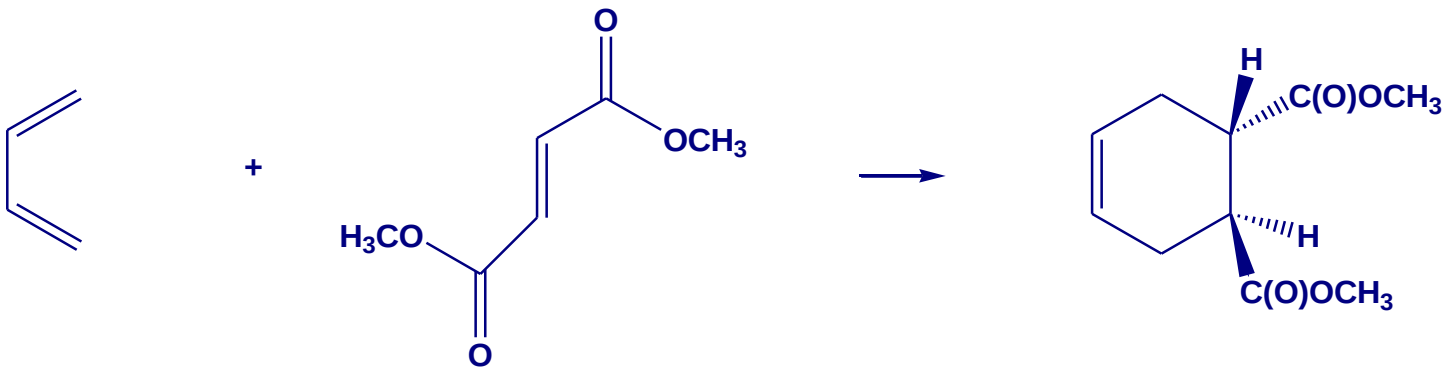
dien **dienofil** **addukt**

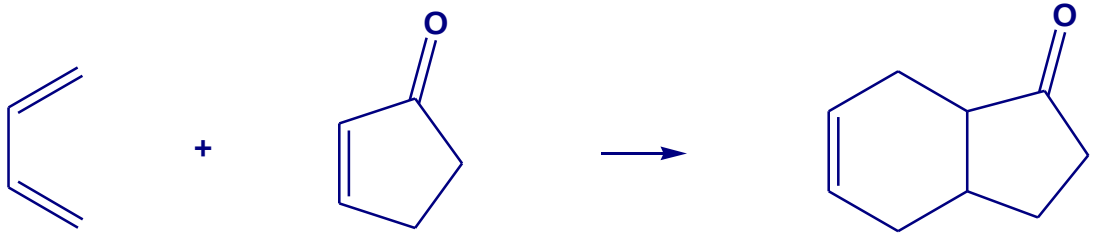
Dien przyłącza się do dienofila z jednej strony – addycja *syn*

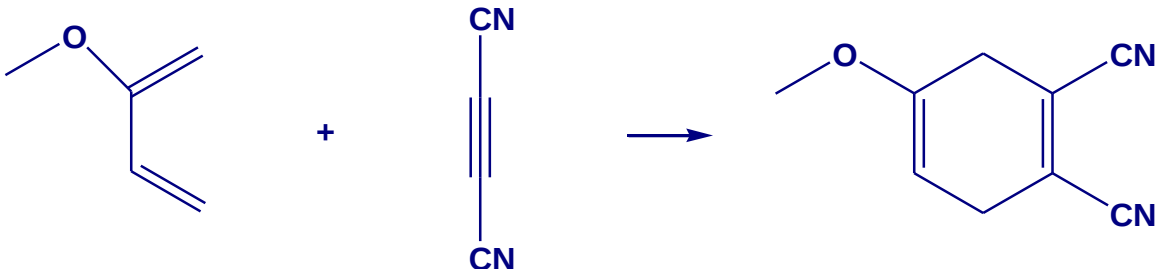


2-metylobuta-1,3-dien ***cis*-1,2-dibromoeten** **1,2,5-dibromo-1-metylocykloheks-1-en**

Przykłady reakcji Dielsa – Aldera






O
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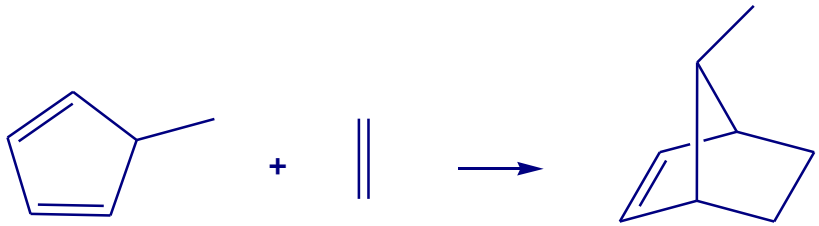
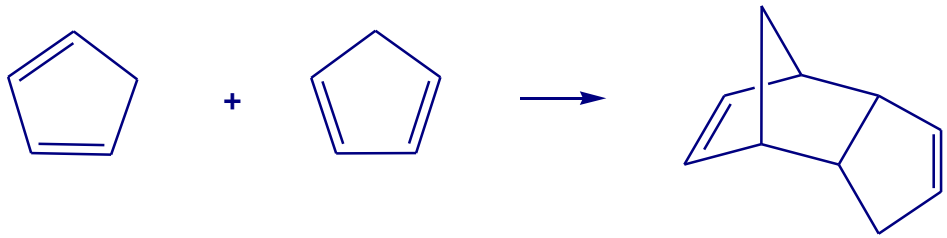
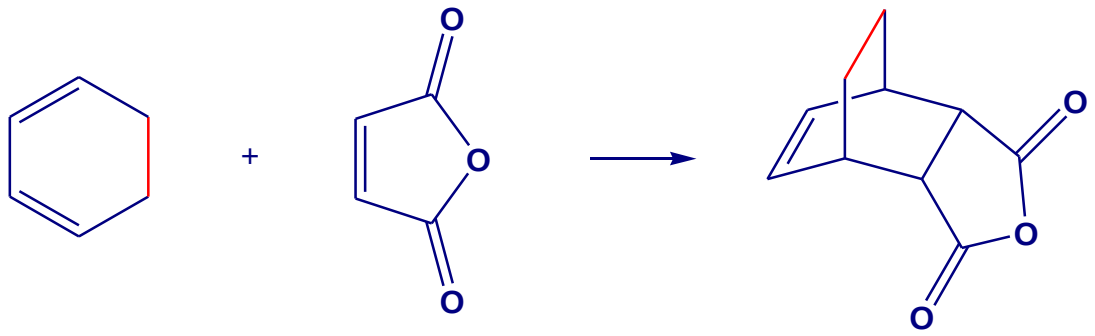
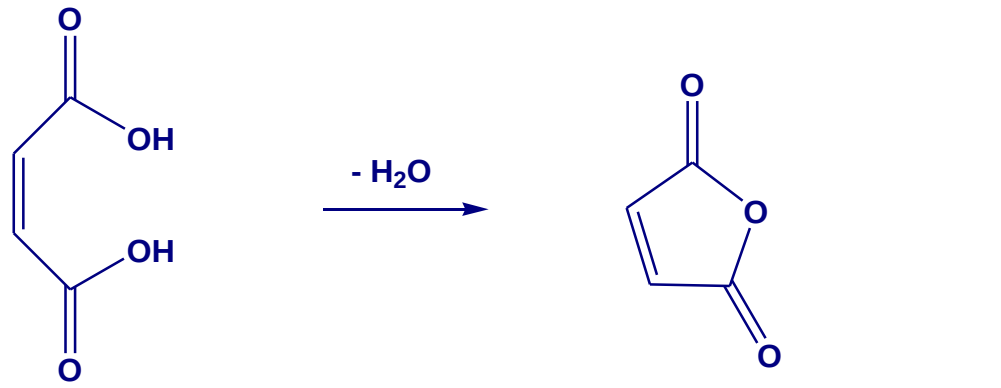




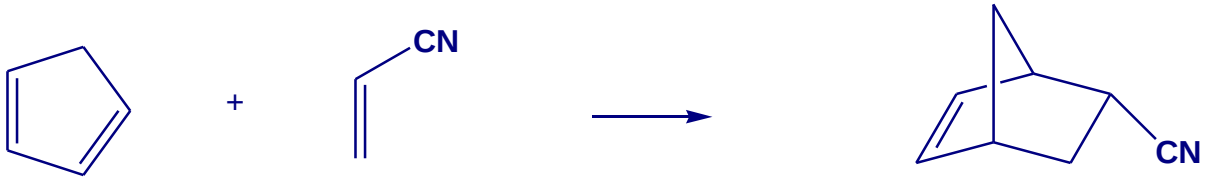


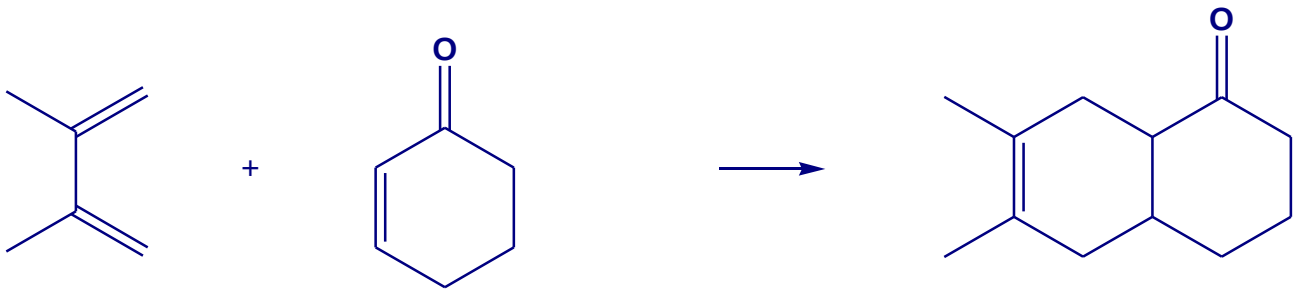


kwas maleinowy

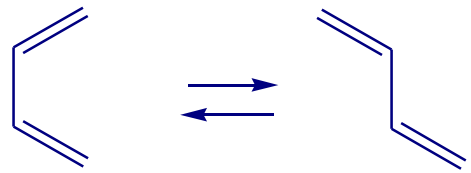
bezwodnik kwasu maleinowego

Przykład: uzupełnij reakcje Dielsa - Aldera

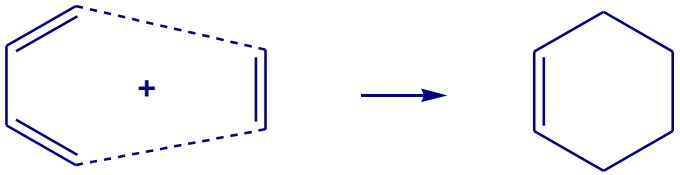


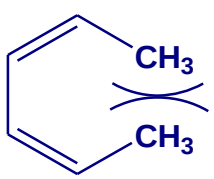


Nie wszystkie dieny biorą udział w reakcji Dielsa - Aldera

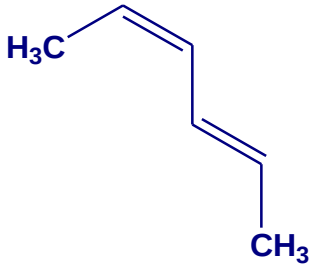


s-*cis* **s-*trans***





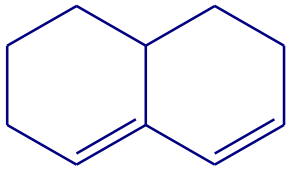
zawada steryczna



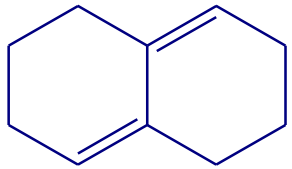
s-*cis*

2*Z*,4*Z*-haksa-2,4-dien

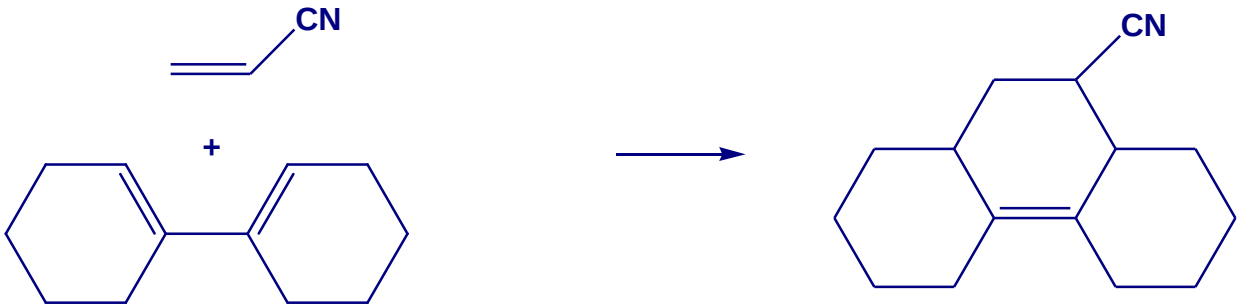
s-*trans*

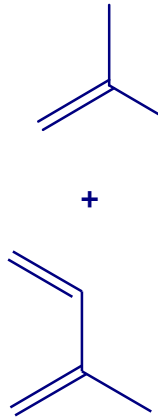


bicyklo[4.4.0]deka-1,9-dien



bicyklo[4.4.0]deka-1,6-dien





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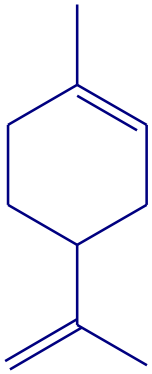
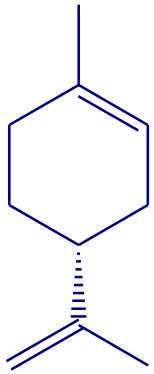


limonen

4-izopropenylo-1-metylocykloheksen

racemat



***R*-limonen**