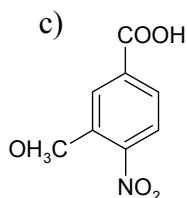
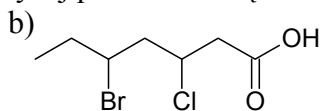
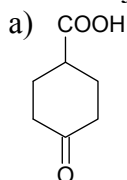


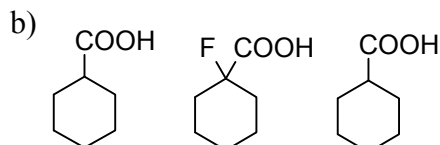
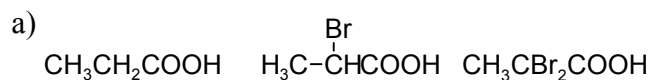
## Lista 13. Kwasy karboksylowe.

1. Nazwij lub narysuj poniższe związki:



d) kwas 2,2-dibromoheksanodiowy,  
e) kwas 4-(1,1-dimetyloetylo)benzoesowy

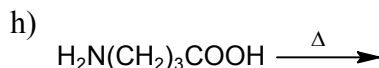
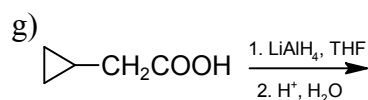
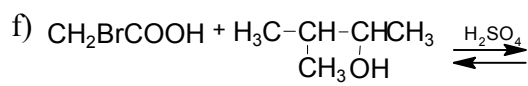
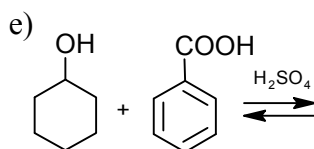
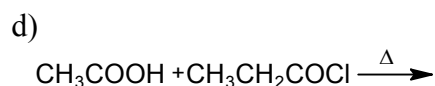
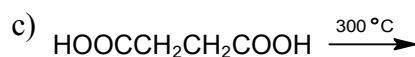
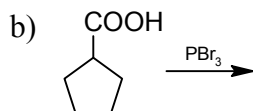
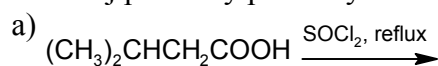
2. Uporządkuj kwasy według malejącej kwasowości:



3. Podaj produkty utleniania kwasem azotowym:

a) pentanal,    b) 1,6-heksanodiolu,    c) 4-(hydroksymetylo)cykloheksanokarboaldehydu

4. Podaj produkty poniższych reakcji:



5. Zaproponuj drogi umożliwiające poniższe przekształcenia (wymagany jest więcej niż jeden etap):

