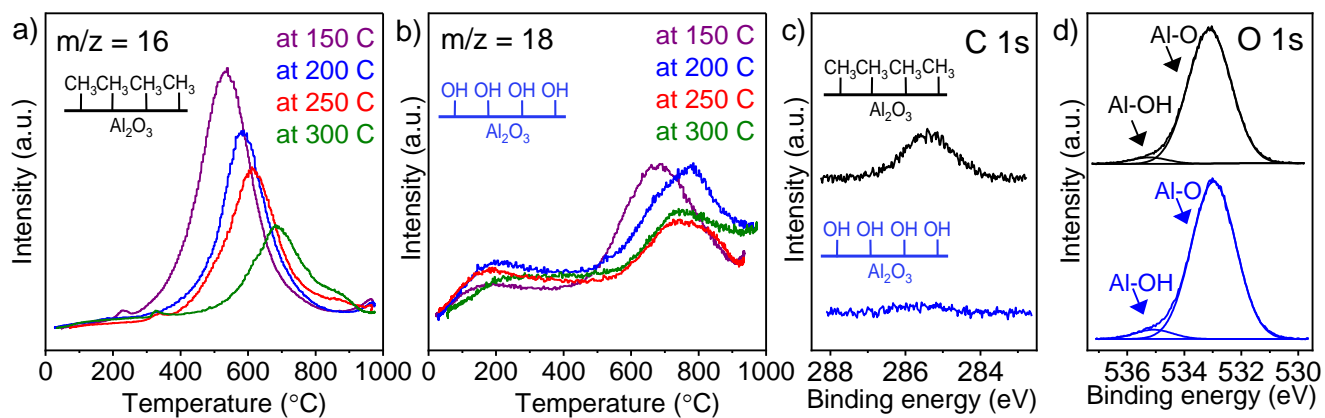


**Figure 1.** Schematic of the cluster tool.



**Figure 2.** TPD measurements on a)  $m/z = 16$  after TMA pulse and b)  $m/z = 18$  after  $\text{H}_2\text{O}$  pulse from  $\text{Al}_2\text{O}_3$  films deposited at 150-300 °C. XPS measurements on c) C 1s and d) O 1s regions after TMA (black curves) and  $\text{H}_2\text{O}$  (blue curves) pulses from  $\text{Al}_2\text{O}_3$  deposited at 250 °C.