A hypothetical equation is derived from a method of column slicing previously described. When the derived equation is used to forecast the temperature-programmed gas chromatographic (TPGC) retention times of fatty acid methyl esters (FAMEs), the differences between the observed and calculated values are -2.6 to 1.92. The greatest differences are found with higher programming rates and longer carbon chain lengths. When a flow-adjustment term is incorporated into the equation, the greatest difference between the observed and calculated retention times is reduced to approximately 2.7%. This equation can also accurately forecast the TPGC retention times of both saturated and unsaturated FAMEs from cauliflower seed oil.