

Table 4: Syngas composition from oxy- and steam gasification of woody biomass, independent on gasification time and reactor type.

Oxy- and Air- gasification (Temperature between 690 – 820 °C)				
Compound	Abr.	Average c_i [%mol]	St. error [%mol]	Relative error [%]
Hydrogen	H ₂	12,1	2,8	22,8
Carbon Monoxide	CO	36,5	6,8	18,5
Carbon Dioxide	CO ₂	44,3	7,8	17,7
Methane	CH ₄	7,0	1,8	25,7
Steam gasification (Temperature between 800 – 950 °C)				
Compound	Abr.	Average c_i [%mol]	St. error [%mol]	Relative error [%]
Hydrogen	H ₂	39,8	4,6	11,5
Carbon Monoxide	CO	24,3	4,6	19,2
Carbon Dioxide	CO ₂	24,7	4,8	19,4
Methane	CH ₄	11,3	2,0	17,7

As seen in the table above, the range for each concentration is smaller than it is for the gasification of mixed inputs. In this more specified case better optimization can be achieved. In the following figures, Figure 1-4, several scenarios have been chosen to demonstrate the range of concentration (shown on the figures depending on temperature) for woody biomass gasification.

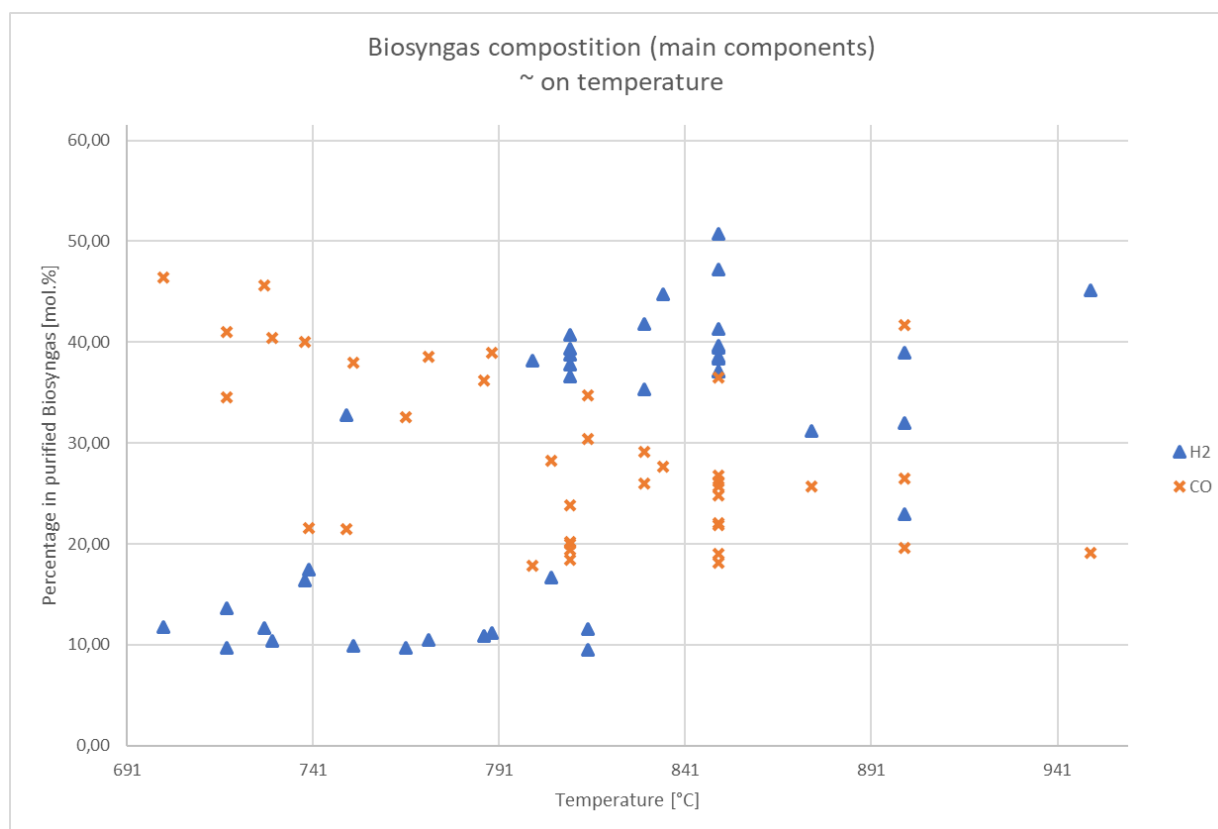


Figure 1: Concentration of H₂ and CO in wood-gasification, reactor and gasification agent not specified, without catalyst specification.

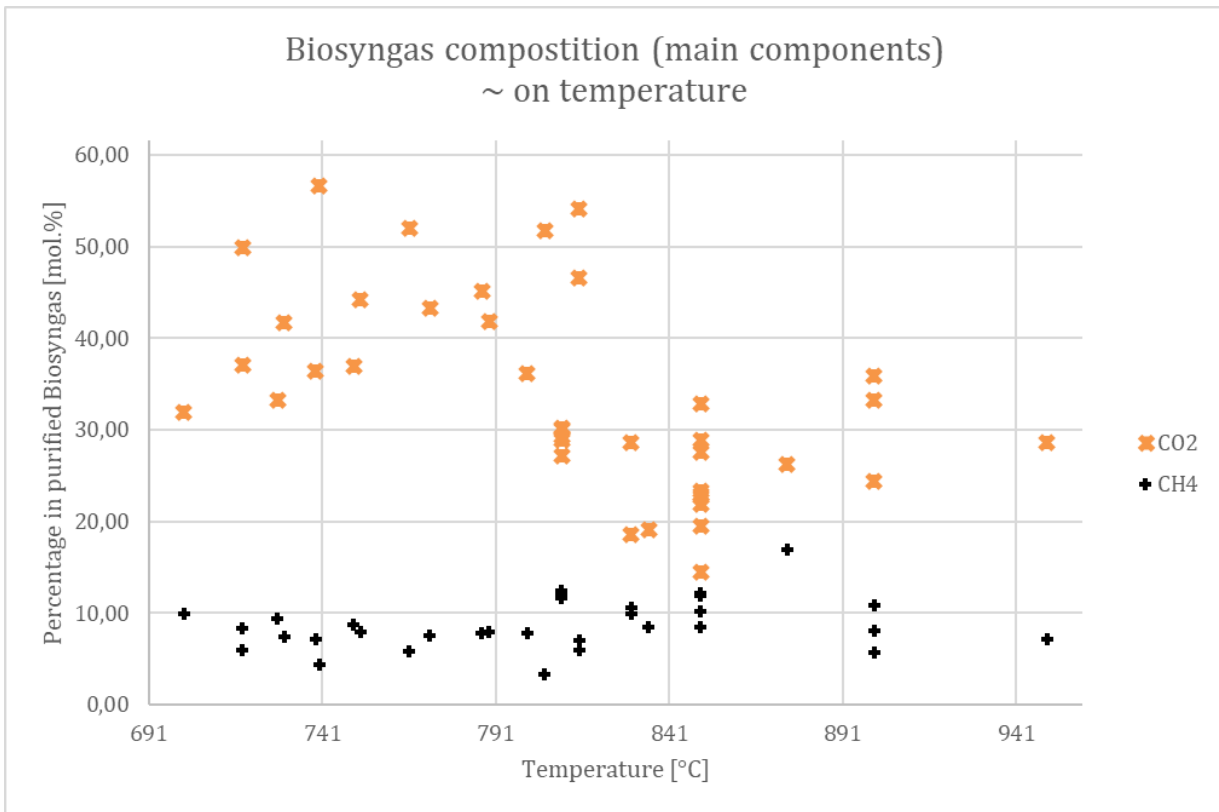


Figure 2: Concentration of CH₄ and CO₂ in wood-gasification, reactor and gasification agent not specified, without catalyst specification.

