

Abstract:

A computer-implemented method for determining values of reaction parameters of a reaction model for the pyrolysis of a plastic starting material into plastic products, the method comprising the following steps:

- providing experimental data comprising a plurality of boiling point distributions of plastic products, wherein each boiling point distribution is associated with a pyrolysis temperature and a pyrolysis duration, wherein the boiling point distributions are each binned into a number N lumps L_1 to L_N , wherein each lump is associated with a boiling point temperature range;

- determining a respective value of the reaction parameters by fitting the reaction parameters of the reaction model to the experimental data; wherein the reaction model for each lump L_i from L_1 to L_{N-1} has a partial reaction determined by at least one reaction parameter for describing a conversion of plastic products of this lump into plastic products of a lump L_{i+1} lying below and adjacent with respect to the boiling point temperature range, wherein the reaction model has less than $N*(N-1)/2$ partial reactions.