Abstract

The objective of the present work is to develop models inculcating the effect of operating conditions of neem oil methyl esters (NOME) production in an oscillatory baffled reactor, namely temperature, time of reaction, oil to methanol ratio and catalyst concentration on the estimation of parameters like the viscosity of biodiesel produced by using Artificial Neural Networks technique. Experiments were conducted in the laboratory and the results obtained were used to develop the ANN model using MATLAB. The developed model was in good agreement with the experimental values (error within +1%). Based on the outcome of this demonstrative work, it can be concluded that ANN has a great potential in addressing the estimation of biodiesel properties. It is sincerely felt that the methodology adopted in the present work can be extended to more comprehensive data sets and various data from different experimental reactor
design setups.

References

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Index Terms
Computer Science             Neural Networks

Keywords
Neem Oil Methyl Ester     Oscillatory baffled reactor    artificial neural network