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# Calculation of Standard Thermodynamic Potentials for Na-Zeolites with the Use of Linear Programming Problems

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## ABSTRACT

Linear programming problems for Na-Al-Si-O-H system have been formulated and solved for calculations of standard enthalpies and Gibbs potentials of zeolites with unknown thermodynamic properties. The calculations are based on dual solutions of linear programming problems. Comparison of numerical results with published data gives relative mistakes of estimations less than one percent. On the basis of calculated potentials the standard entropies have been estimated. The standard thermodynamic potentials for eight natural zeolites with unknown properties have been calculated. The presented method does not demand any information about crystal structure of zeolites and can be applied to any of their stoichiometric presentation.

## KEYWORDS

Na-Zeolites, Standard Thermodynamic Potentials, Linear Programming

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