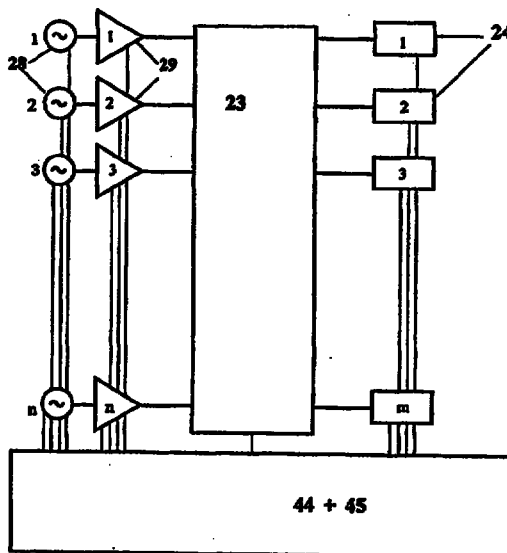




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(54) Title: MICROWAVE APPARATUS AND METHODS FOR PERFORMING CHEMICAL REACTIONS



(57) Abstract

The present invention relates to an apparatus and methods for performing chemical reactions. In particular, the present invention relates to an apparatus for heating chemical reaction mixtures. The apparatus applies one or more semiconductor based microwave generators making the apparatus suitable for parallel processing of chemical reaction mixtures. The invention further relates to methods for performing chemical reactions, e.g. methods for heating a plurality of samples simultaneously or sequentially, methods for monitoring a microwave heated chemical reaction, and methods where the optimum conditions with respect to parameters, such frequency and applied power can be determined for the system consisting of apparatus plus sample.