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(54) Title: ANTIBODY COMPETITION MODEL USING AFFINITIES OF HIDDEN VARIABLES

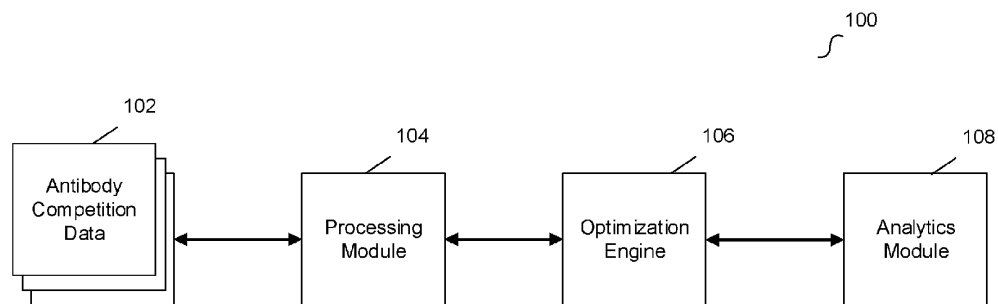


Fig. 1

(57) Abstract: Embodiments derive hidden variables based on antibody competition data to discover binding patterns. For example, antibody competition data for a plurality of antibodies and an antigen can be received, where the antibody competition data includes data values indicative of pairwise competition between antibodies. The antibody competition data can be processed to generate training data. Using the training data and an optimization engine, a plurality of hidden variables and affinity scores for the hidden variables can be derived, where affinity scores for the hidden variables are derived for each antibody and the hidden variables represent competition factors for the antigen that cause competition among the antibodies.

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