

Claims:

1 A method, comprising:

fitting results of measurements of a time course variation of dosages of a combination of N drugs applied to a biological system and measurements of a time course variation of a therapeutic outcome of the biological system in response to the N drugs into a model of the therapeutic outcome, with N being 2 or more; and

using the model of the therapeutic outcome, identifying an optimized combination of characteristics of the N drugs,

wherein the model of the therapeutic outcome is a quadratic function of the dosages of the N drugs,

wherein:

the quadratic function includes m parameters, with $m = 1 + 2N + (N(N - 1))/2$, and fitting the results of the measurements includes deriving the m parameters; or

the quadratic function includes m parameters, with $m = 1 + 2(N - 1) + ((N - 1)(N - 2))/2$, and fitting the results of the measurements includes deriving the m parameters.

2. The method of claim 1, wherein identifying the optimized combination of characteristics of the N drugs includes identifying optimized dosages of the N drugs.

3. The method of claim 1, wherein identifying the optimized combination of characteristics of the N drugs includes identifying optimized dosage ratios of the N drugs.

4. The method of claim 1, wherein identifying the optimized combination of characteristics of the N drugs includes identifying optimized time instances of applying the N drugs.

5. The method of claim 1, wherein identifying the optimized combination of characteristics of the N drugs includes identifying optimized frequencies of applying the N drugs.