

Claims

1. A method, comprising:
 - applying a combination of N drugs to a biological system, with N being 2 or more;
 - performing measurements of a time course variation of dosages of the N drugs in the biological system;
 - performing measurements of a time course variation of a therapeutic outcome of the biological system in response to the N drugs;
 - fitting results of the measurements of the dosages and the therapeutic outcome into a model of the therapeutic outcome; 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.

6. The method of any of claims 1-5, further comprising:
applying the N drugs, according to their optimized combination of characteristics, to the biological system.