Can I identify potential drug-drug interactions mediated by alterations of drug metabolism?

Example: What drugs may alter the metabolism of Warfarine?

Steps to follow:

1. Put Warfarine in a new pathway.

2. Identify proteins involved in the metabolism of Warfarine. Go to Add > Neighbors or Connections> Expand Pathway> Direction of relations "upstream" > Entity type: "Protein" > Relation type "ChemicalReaction." *(Optional: add also complexes and functional classes to Entity type.)*

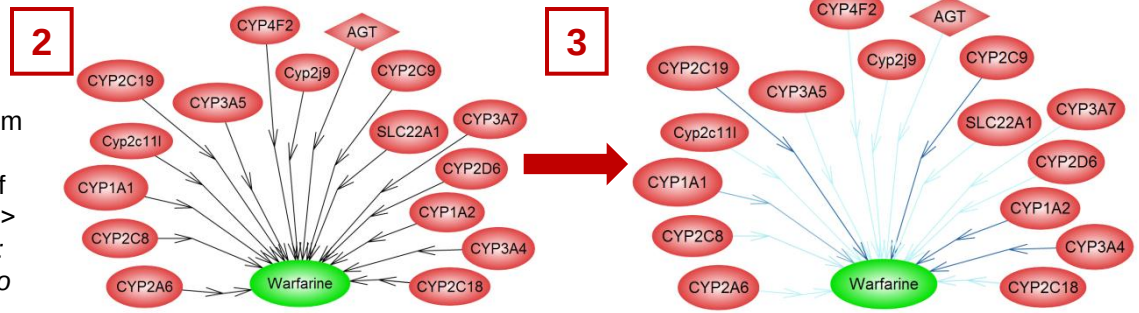
3. In the Graph View choose Style > Active Style Sheet > By Reference Count. Examine reference sentences to find good candidates.

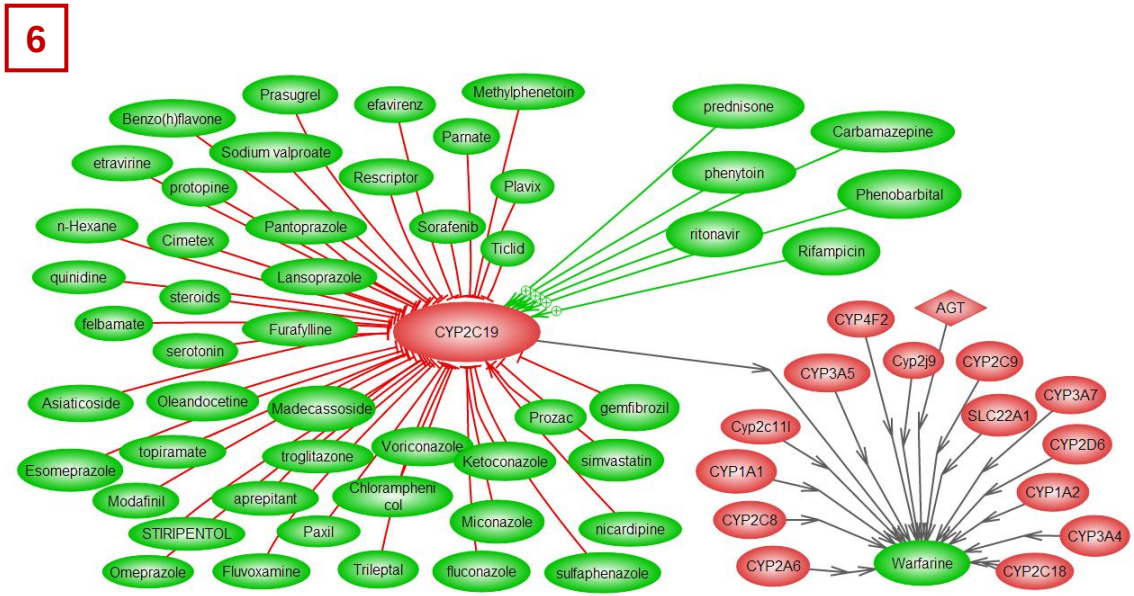
4. Select one protein at a time to identify the small molecules that have positive and negative effects on that protein. Here select ***CYP2C19***.

5. With ***CYP2C19*** selected, use the Build Pathway Wizard with the following settings: Go to Add > Neighbors or Connections> Expand Pathway>Direction of relations "upstream" > Entity type: "small molecule" > Relation type: "DirectRegulation." *(Optional: add also Regulation)*

6. In the Graph View choose Style > Active Style Sheet > By Effect.

Relations with four or less references removed in #6 for clarity. Removing relations with low reference counts increases the confidence in the resulting network.





Relations for small molecules that activate the enzymes involved in the metabolism of Warfarin are shown in green. Inhibitors are shown in red.