Hedgehog activation of tumor growth

Rules for Hedgehog model

1. If Shh is medium or higher, Transforming Event is on.
2. NmycP expression is proportional to the level of Shh.
3. Ptc1 expression rate is inversely proportional to Shh level; Gli1 must be low or higher for Ptc1 expression. Gli1 partially counters the repression of Shh: the effects of each on the reaction are averaged.
4. Smo expression level is very high if Ptc1 level is zero, very low if Ptc1 is very low to medium, and is zero if Ptc1 is high or very high.
5. Gli2 expression level is proportional to Smo level.
6. Gli1 expression level is proportional to Gli2 level.
7. Tumor Growth: (1) is proportional to the level of NmycP, (2) requires the transforming event level to be high, (3) is zero unless Gli1 is medium high or higher.
8. The proteins NmycP, Ptc1, Smo, Gli1 and Gli2 decay at a constant rate proportional to their concentrations.