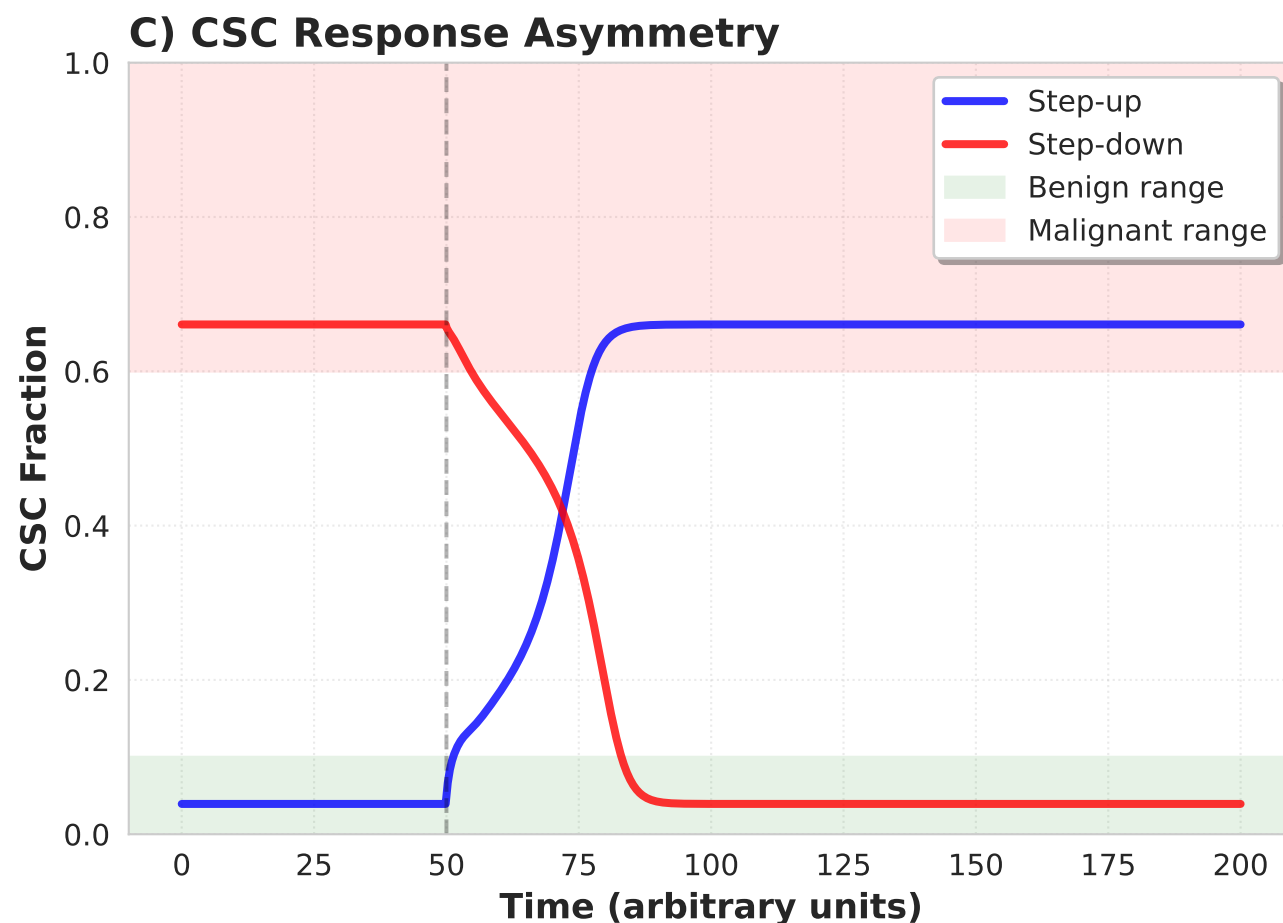
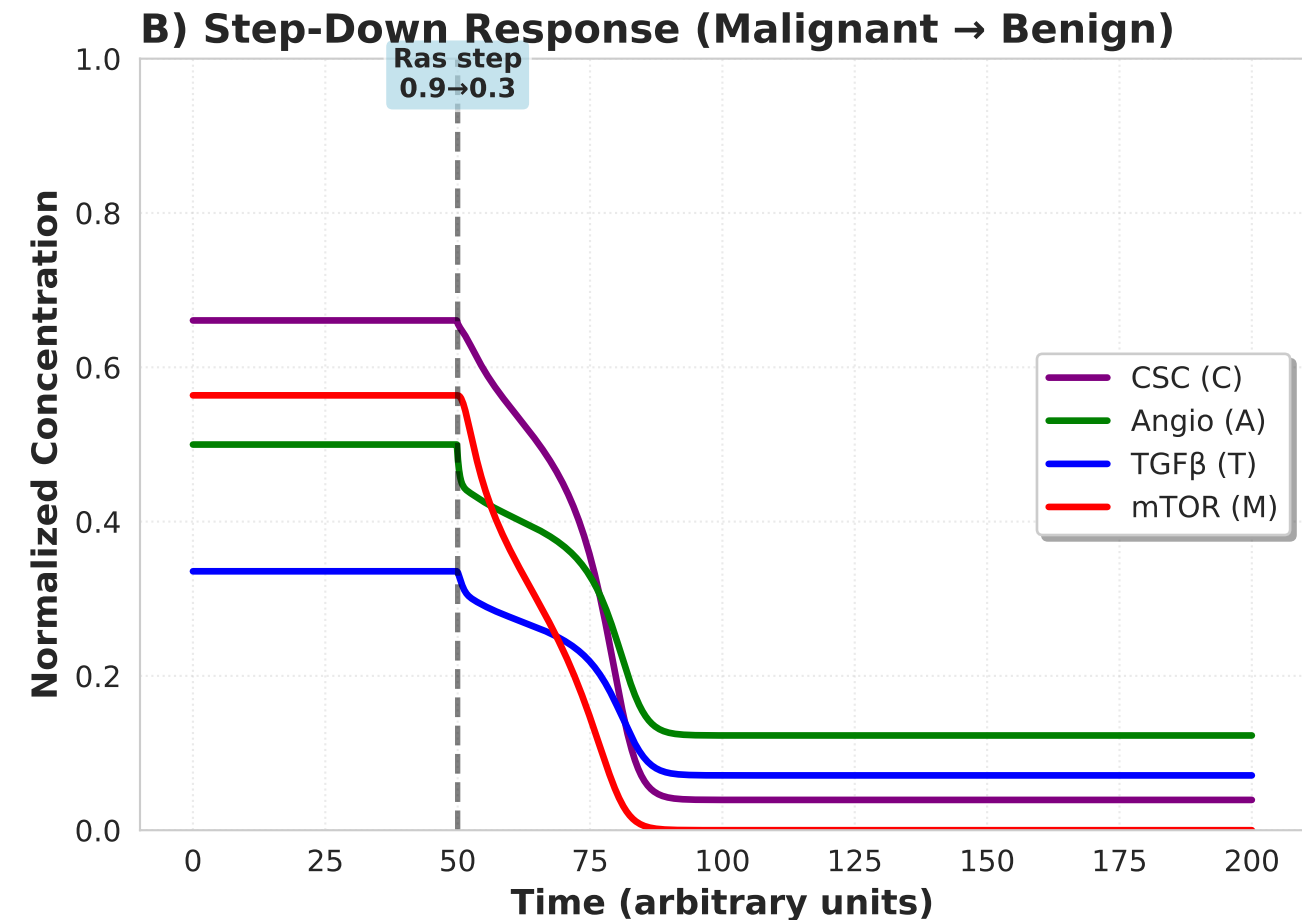
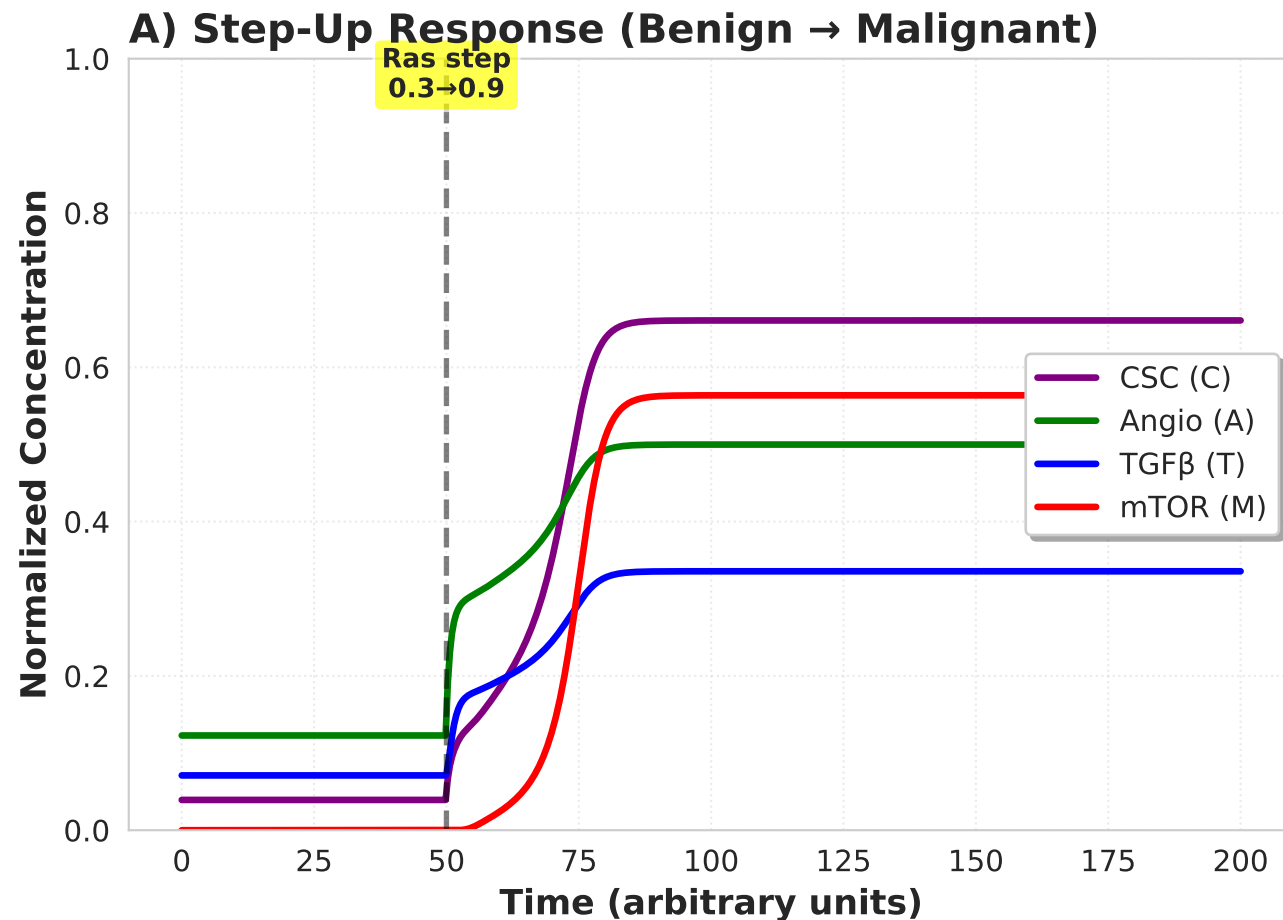


# Figure 6: Temporal Dynamics Analysis



### D) Temporal Analysis

#### TEMPORAL CHARACTERISTICS

##### Step-Up Response (Benign → Malignant):

Initial CSC:	0.039
Final CSC:	0.661
Change:	+0.621
Time constant ( $\tau$ ):	22.5 time units
Interpretation:	Slow progression to malignancy

##### Step-Down Response (Malignant → Benign):

Initial CSC:	0.661
Final CSC:	0.039
Change:	-0.621
Time constant ( $\tau$ ):	28.1 time units
Interpretation:	Slow regression (bistability)

#### BISTABILITY SIGNATURE:

- Both transitions are SLOW ( $\tau > 20$  time units)
- System resists leaving either attractor
- High-C state is STABLE despite Ras reduction
- Requires sustained intervention to switch states

#### CLINICAL IMPLICATIONS:

- Transient Ras reduction insufficient
- Need sustained multi-target therapy
- mTOR inhibition required to destabilize high-C state