How to distinguish mechanism of neutrinoless double beta decay?

If neutrinoless double beta decay will be detected the first question will be:

Which mechanism is responsible for the decay?

[It can be “light neutrino mass” mechanism, RHC, SUSY,.... (ask theorists).]

In fact, there are a few possibilities only:

1. To have information about single electron spectrum and angular distribution of the electrons.

2. To have information about half-lives ratio between different isotopes.

3. To have information about half-lives ratio between transitions to ground and excited states.

***) In last two cases one has to know how to calculate NME with reasonable accuracy.**

So, from experimental point of view we can formulate requirements to next generation experiments:

I. We have to have positive result for many isotopes (~ 3-5).

II. It will be useful to measure both decay to the ground and excited state in the same nuclei.

III. We need 1 or 2 experiments, which will measure single electron spectrum and angle between the electrons (SuperNEMO or NEXT type experiments).