- 1. Utilize different kinds of catalyst to synthesize CNTs.
- 2. Using AAO template with different aspect ratio and interpore distance to synthesize CNT arrays, higher  $\beta$  value can be anticipated.
- 3. It is expected that if only the CNT surface is cleaned by post-growth treatment, such as  $H_2$  plasma treatment, the low tube density provided field enhancement will be more highlighted in the case of high  $CH_4$  concentration.
- 4. Triode device fabrication.

