## Q21a Possibility of chemical differentiation among high-mass star-forming cores

Kotomi Taniguchi (SOKENDAI), Masao Saito, Tomoya Hirota, Fumitaka Nakamura (NAOJ), Hiroyuki Ozeki (Toho Univ.), Yusuke Miyamoto, Hiroyuki Kaneko, Tetsuhiro Minamidani (Nobeyama Radio Observatory), Kazuhito Dobashi, Tomomi Shimoikura (Tokyo Gakugei Univ.)

We carried out observations toward four high-mass star-forming regions containing hot cores in the 42−46 and 82−103 GHz bands with the Nobeyama 45 m radio telescope, and the 26−30 GHz band with the Green Bank 100-m telescope (GBT). We have detected $HC_5N$ from all of the four sources, and derived its rotational temperatures in the high-mass star-forming regions to be $\sim 13-20$ K, which are significantly higher than those in cold dark clouds and comparable to that in a low-mass star-forming core L1527. The observational results suggest that $HC_5N$ exists in the warm gas within 0.07−0.1 pc radii around the massive young stellar objects. We have also detected $HC_7N$ from three sources in the 26−30 GHz band using the GBT. The detection of $HC_7N$ suggests that our target high-mass star-forming regions contain plenty of long cyanopolyynes, compared to typical star-forming regions. We compare the ratios between $N(HC_5N)$ the column density of $HC_5N$ and $W(CH_3OH)$ the integrated intensity of the thermal $CH_3OH$ emission line among our target sources, and found a possibility of the chemical differentiation. One of the target sources, G28.28-0.36, shows the highest $N(HC_5N)/W(CH_3OH)$ ratio than the other sources by an order of magnitude. G28.28-0.36 may be a good candidate of warm carbon chain chemistry (WCCC) sources which have been found only among low-mass star-forming cores with long carbon-chain molecules such as L1527.