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Research of Superheavy Element at RIKEN KOSUKE MORITA, Department of Physics, Kyushu University / RIKRN Nishina Center, RIKEN — An isotope of the 113$^{\text{th}}$ element, ^{278}113, were produced by the ^{209}Bi(^{70}Zn, n) reaction using gas-filled recoil ion separator (GARIS). Three decay chains originating from ^{278}113 were observed. Two of them consisted of four consecutive alpha decays followed by spontaneous fission (SF). One consisted of six consecutive alpha decays. These were assigned to the decay, ^{278}113(alpha) $\rightarrow$ ^{274}Rg(alpha) $\rightarrow$ ^{270}Mt(alpha) $\rightarrow$ ^{266}Bh(alpha) $\rightarrow$ ^{262}Db(SF/alpha) $\rightarrow$ ^{258}Lr(alpha) $\rightarrow$. The reaction ^{248}Cm + ^{48}Ca was studied using GARIS. Five decay chains terminated by SF were observed. The decay properties of the chains agree well with the chains observed, and assigned to ^{292}Lv and ^{293}Lv, at Dubna and at GSI in the same reaction. Possible new alpha decay branch of ^{284}Cn and subsequent SF of possible new isotope ^{280}Ds were observed.

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