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Dynamical scaling of quantum spin liquid in the triangular lattice κ-$(ET)_2Ag_2(CN)_3$[1] YASUHIRO SHIMIZU, Department of Physics, Nagoya University, Japan, TAKAAKI HIRAMATSU, Faculty of Agriculture, Meijo University, Japan., MITSUHIKO MAESATO, AKIHIRO OTSUKA, HIDEKI YAMOCHI, Division of Chemistry, Graduate School of Science, Kyoto University, Japan, AKIHIRO ONO, MASAYUKI ITOH, Department of Physics, Nagoya University, Japan, MAKOTO YOSHIDA, MASASHI TAKIGAWA, Institute for Solid State Physics, University of Tokyo, Japan, YUKIHIRO YOSHIDA, GUNZI SAITO, Faculty of Agriculture, Meijo University, Japan. — The static and dynamic spin susceptibilities of quantum spin liquid are investigated in an organic Mott insulator κ-$(ET)_2Ag_2(CN)_3$ with a spin-1/2 triangular lattice. The application of negative chemical pressure to κ-$(ET)_2Cu_2(CN)_3$ allows for extensive tuning of antiferromagnetic exchange coupling, with $J/k_B = 175 - 310$ K, under hydrostatic pressure. Based on ^{13}C nuclear magnetic resonance measurements under pressure, we uncover universal scaling in the static and dynamic spin susceptibilities down to low temperatures $\sim 0.1k_BT/J$. The low-lying spin excitations persists in the nuclear spin-lattice relaxation rate and specific heat coefficient, consistent with the presence of gapless low-lying excitations. The results demonstrate fundamental finite-temperature properties of quantum spin liquid in a wide parameter range.

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