Title:	Exotic Low-Energy Excitations Emergent in the Random Kitaev Magnet Cu2IrO
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Abstract:	We report on magnetization M(H), dc and ac magnetic susceptibility χ(T), specific heat Cm(T) and muon spin relaxation (μSR) measurements of the Kitaev honeycomb iridate Cu2IrO3 with quenched disorder. In spite of the chemical disorders, we find no indication of spin glass down to 260 mK from the Cm(T) and μSR data. Furthermore, a persistent spin dynamics observed by the zero-field muon spin relaxation evidences an absence of static magnetism. The remarkable observation is a scaling relation of χ[H,T] and M[H,T] in H/T with the scaling exponent α=0.26–0.28, expected from bond randomness. However, Cm[H,T]/T disobeys the predicted universal scaling law, pointing towards the presence of additional low-lying excitations on the background of bond-disordered spin liquid. Our results signify a many-faceted impact of quenched disorder in a Kitaev spin system due to its peculiar bond character.
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