DC Magnetization and Growth of Heavy-Fermion Superconductor CeCoIn\textsubscript{5} and CeIn\textsubscript{3} Crystal\textsuperscript{1} TESFAYE GEBRE, National High Magnetic Field Laboratory, ERIC PALM, STANLEY TOZER, TIM MURPHEY, JU-HYUN PARK, NHMFL, JASON COOLEY, Los Alamos National Laboratory — The superconducting and magnetic state in heavy-fermion intermetallic compounds provides a promising realm of materials to study quantum critical behavior. Single crystals of the heavy-fermion superconductors CeCoIn\textsubscript{5} and CeIn\textsubscript{3} were synthesized from the pure element using an excess of Indium. The material crystallizes in the body tetragonal space group P4/mmm structure of HoCoGa\textsubscript{5} and has alternating layers of CeIn\textsubscript{3} and CoIn\textsubscript{2}. The details of the flux growth technique used to grow CeCoIn\textsubscript{5} and CeIn\textsubscript{3}, and the result of DC magnetization and transport measurements performed in the temperature range 1.9K to 100K will be reported.

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