

## **$(\text{Eu}_3\text{Sc}_2\text{O}_{5-y})(\text{Fe}_2Pn_2)$ ( $Pn = \text{As}, \text{P}$ ): new possible iron oxypnictides for superconductors**

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Iron-based compounds including perovskite-type blocking layers are one of the challenging candidates for new superconductors owing to their rich structural and chemical variations<sup>1 2 3</sup>. Here we report the synthesis and physical properties of  $(\text{Eu}_3\text{Sc}_2\text{O}_{5-y})(\text{Fe}_2Pn_2)$  ( $Pn = \text{As}, \text{P}$ ) abbreviated to  $\text{Eu-32522}(Pn)$  as new possible iron oxypnictides for superconductors. Nearly single-phase samples were synthesized under a pressure of 2 GPa. Lattice parameters of the samples are  $a = 4.059 \text{ \AA}$ ,  $c = 26.39 \text{ \AA}$  for  $Pn = \text{As}$  and  $a = 4.019 \text{ \AA}$ ,  $c = 25.77 \text{ \AA}$  for  $Pn = \text{P}$ . Both samples do not show superconductivity probably due to their long  $a$ -axis lengths and/or magnetism caused by  $\text{Eu}^{2+}$ . Now we are controlling the lattice parameters and magnetism by changing chemical compositions in the samples to induce superconductivity.

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