## **RSC Advances**

## **Electronic supplementary information**

## Nanosized Tetragonal $\beta$ -FeSe phase obtained by Mechanical Alloying: Structural, Microstructural, Magnetic and Electrical Characterizations

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**Figure SI-1.** (a) XRD patterns of the Fe<sub>1.0</sub>Se sample as a function of milling time. (b) Phase fractions and (c) Average crystallite size for  $\delta$ -FeSe,  $\beta$ -FeSe and residual Fe phases versus milling time. The black symbols are for representing the  $\delta$ -FeSe phase, the red ones for the  $\beta$ -FeSe phase and blues are for residual Fe.







and  $Fe_{1.5}Se$  (triangles) samples at room temperature. Black and red symbols represent the values for the as-milled and thermal treated

