

Figure 5 HRPD patterns of FeNiCr cast alloys with varying concentrations of Y2O3, illustrating peak intensities and positions. (a) HRPD patterns of the FeNiCr cast alloys with Y2O3 content ranging from 0 to 2.0 wt.% from 2θ at 40 to 130 degrees. The peaks are sharp and distinct, with variations in intensity and position depending on the concentration of Y2O3. (b) A zoomed-in version of the HRPD patterns focuses on a specific range of 2θ angles from around 51.0 to 53.0 degrees. These data demonstrate the effect of Y2O3 on changing the lattice parameters of FeNiCr cast alloys, which are also strongly related to the residual stress.