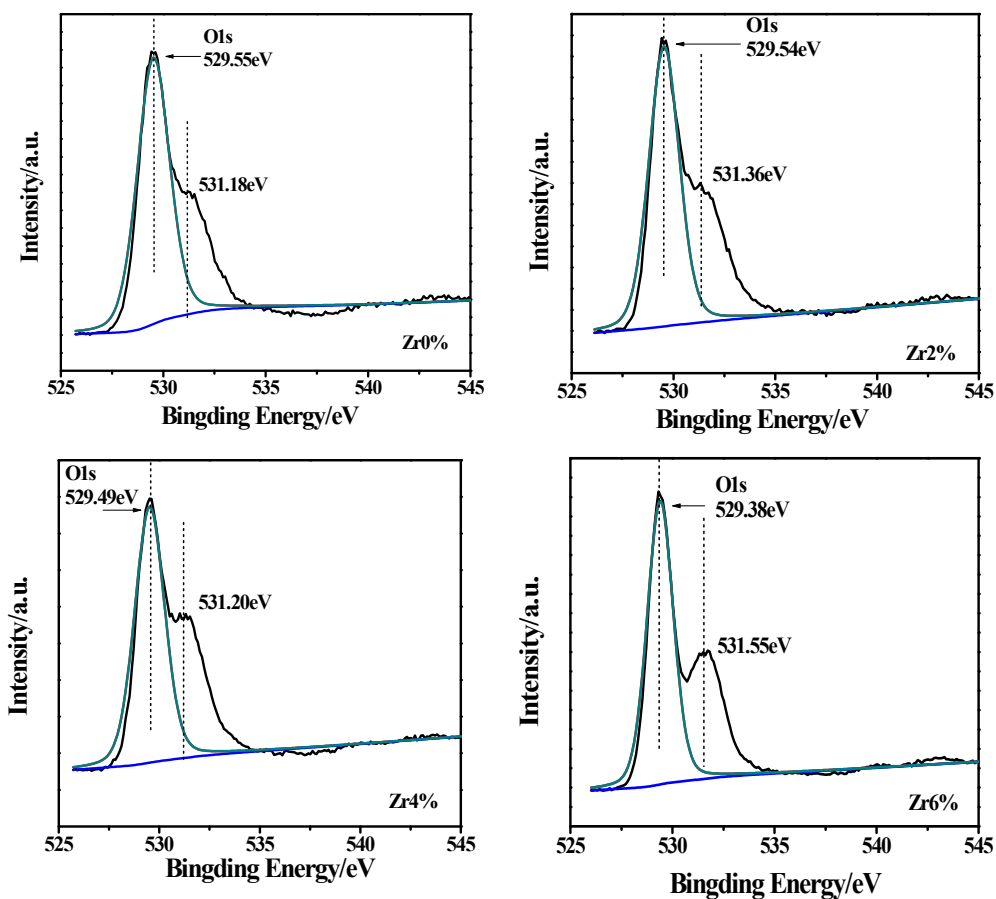


Supplementary data

Fig.S1. TEM images of $0.6\text{Li}[\text{Li}_{1/3}\text{Mn}_{2/3(1-x)}\text{Zr}_{2/3x}]\text{O}_2 \cdot 0.4\text{LiMn}_{5/12}\text{Ni}_{5/12}\text{Co}_{1/6}\text{O}_2$ ($x = 0$, $x = 2\%$, $x = 4\%$, $x = 6\%$, $x = 8\%$, $x = 10\%$) samples.

Fig.S1

Fig.S2. XPS patterns for O 1s in $0.6\text{Li}[\text{Li}_{1/3}\text{Mn}_{2/3}(1-x)\text{Zr}_{2/3x}]\text{O}_2 \cdot 0.4\text{LiMn}_{5/12}\text{Ni}_{5/12}\text{Co}_{1/6}\text{O}_2$ ($0 \leq x \leq 10\%$) samples.



$x)\text{Zr}_{2/3x}]\text{O}_2 \cdot 0.4\text{LiMn}_{5/12}\text{Ni}_{5/12}\text{Co}_{1/6}\text{O}_2$ ($0 \leq x \leq 10\%$) samples.

Fig.S2

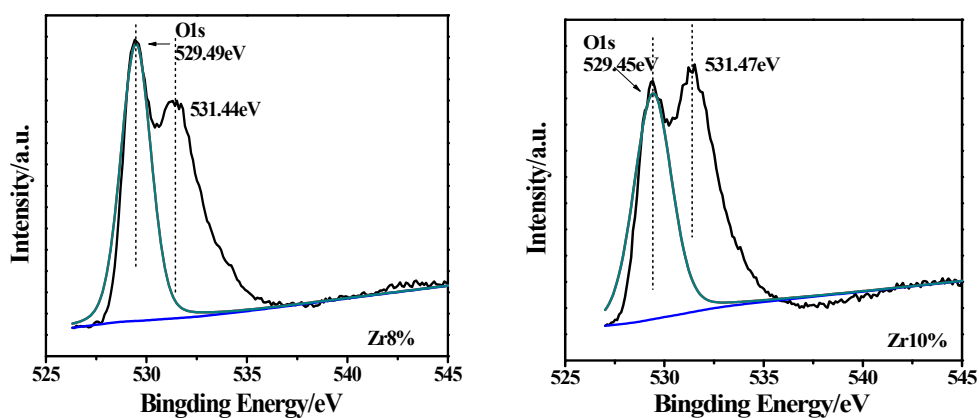


Table S1 the relative $\text{Ni}^{2+}/\text{Ni}^{3+}$ contents in $0.6\text{Li}[\text{Li}_{1/3}\text{Mn}_{2/3}(1-x)\text{Zr}_{2/3x}]_2\text{O}_2 \cdot 0.4\text{LiMn}_{5/12}\text{Ni}_{5/12}\text{Co}_{1/6}\text{O}_2$ ($0 \leq x \leq 10\%$) samples.

Sample	Zr0%	Zr2%	Zr4%	Zr6%	Zr8%	Zr10%
$\text{Ni}^{2+}/\text{Ni}^{3+}$	1.37	1.33	1.31	1.30	1.29	1.25

$0.6\text{Li}[\text{Li}_{1/3}\text{Mn}_{2/3}(1-x)\text{Zr}_{2/3x}]_2\text{O}_2 \cdot 0.4\text{LiMn}_{5/12}\text{Ni}_{5/12}\text{Co}_{1/6}\text{O}_2$ ($0 \leq x \leq 10\%$) samples.

Table S2 the specific surface areas (S_A) of $0.6\text{Li}[\text{Li}_{1/3}\text{Mn}_{2/3}(1-x)\text{Zr}_{2/3x}]_2\text{O}_2 \cdot 0.4\text{LiMn}_{5/12}\text{Ni}_{5/12}\text{Co}_{1/6}\text{O}_2$ ($0 \leq x \leq 10\%$) samples.

Sample	Zr0%	Zr2%	Zr4%	Zr6%	Zr8%	Zr10%
$S_A/\text{m}^2\text{g}^{-1}$	3.79	3.97	4.14	4.30	3.88	3.87