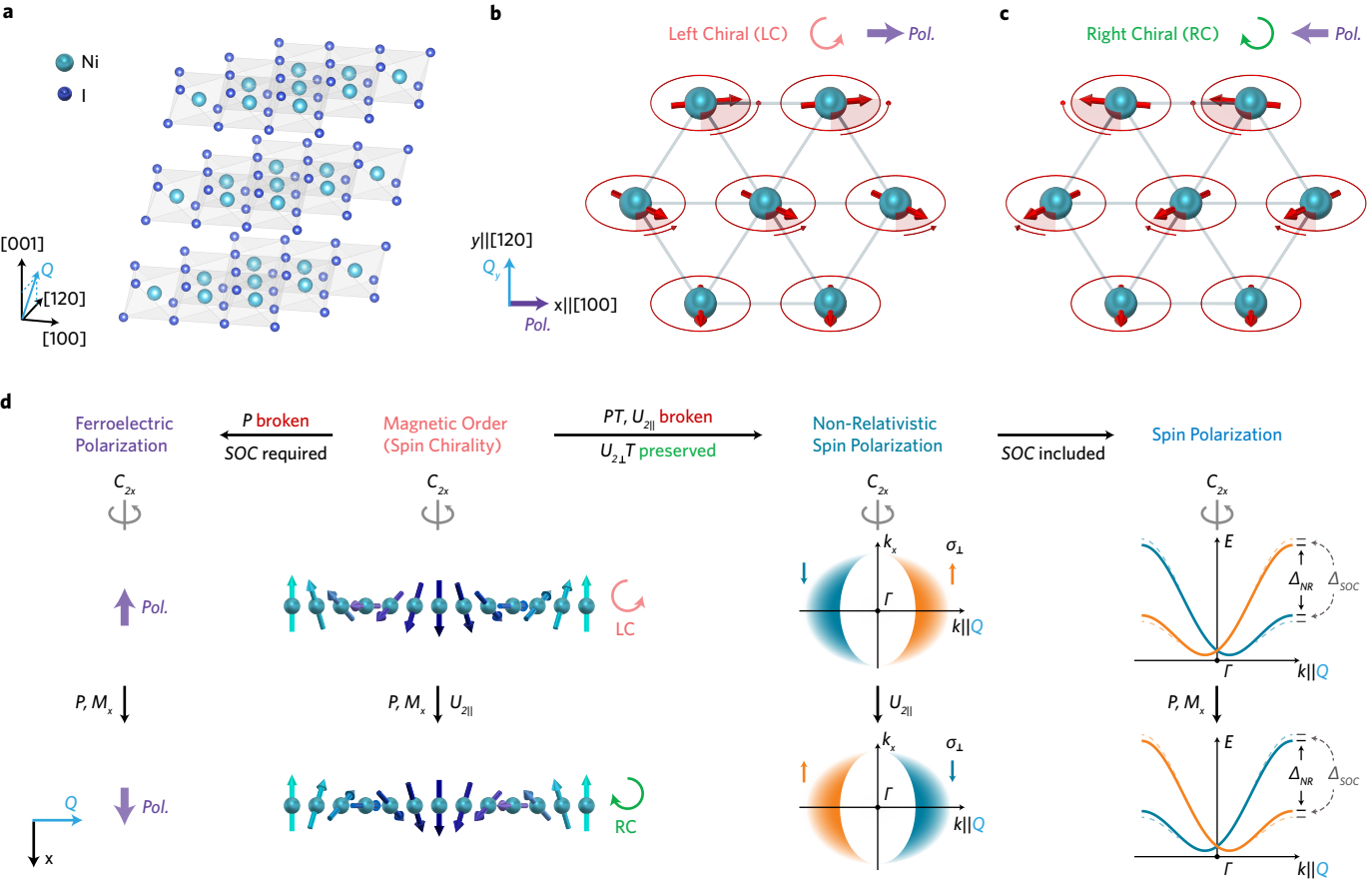
a
Ni
I
[001]
Q
[120]
[100]
b
Left Chiral (LC)
Pol.
y||[120]
Q_y
x||[100]
Pol.
c
Right Chiral (RC)
Pol.
d
Ferroelectric Polarization
P broken
SOC required
Magnetic Order (Spin Chirality)
PT, $U_{2\|}$ broken
$U_{2\perp}T$ preserved
Non-Relativistic Spin Polarization
SOC included
Spin Polarization
C_{2x}
Pol.
P, M_x
$U_{2\|}$
LC
RC
Q
x
k_x
$\sigma_\perp$
Γ
k||Q
E
Δ_{NR}
Δ_{SOC}