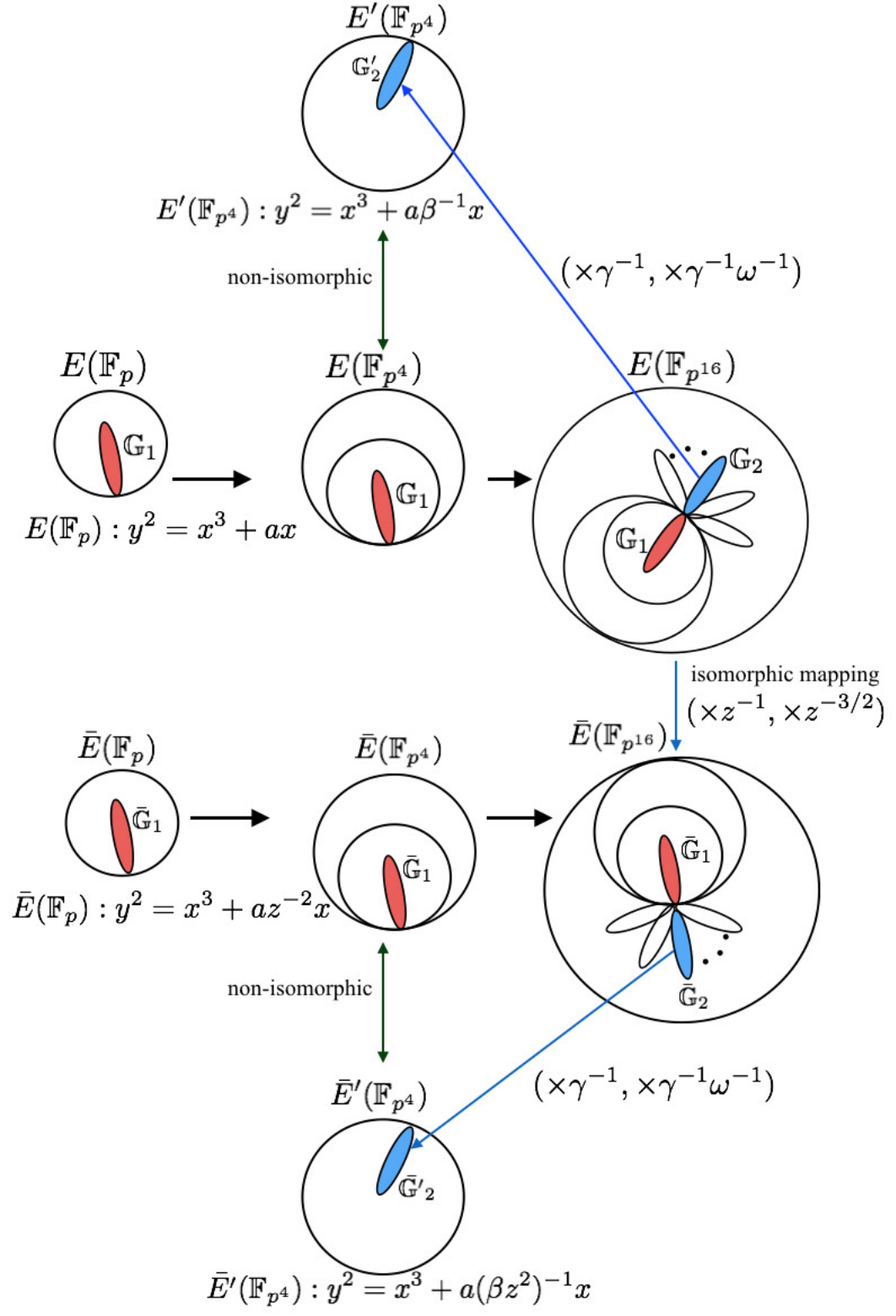
$E'(\mathbb{F}_{p^4})$
$\mathbb{G}'_2$
$E'(\mathbb{F}_{p^4}) : y^2 = x^3 + a\beta^{-1}x$
non-isomorphic
$(\times\gamma^{-1}, \times\gamma^{-1}\omega^{-1})$
$E(\mathbb{F}_p)$
$\mathbb{G}_1$
$E(\mathbb{F}_p) : y^2 = x^3 + ax$
$E(\mathbb{F}_{p^4})$
$\mathbb{G}_1$
$E(\mathbb{F}_{p^{16}})$
$\mathbb{G}_2$
$\mathbb{G}_1$
isomorphic mapping
$(\times z^{-1}, \times z^{-3/2})$
$\bar{E}(\mathbb{F}_{p^{16}})$
$\bar{E}(\mathbb{F}_p)$
$\bar{\mathbb{G}}_1$
$\bar{E}(\mathbb{F}_p) : y^2 = x^3 + az^{-2}x$
$\bar{E}(\mathbb{F}_{p^4})$
$\bar{\mathbb{G}}_1$
$\bar{\mathbb{G}}_1$
$\bar{\mathbb{G}}_2$
non-isomorphic
$(\times\gamma^{-1}, \times\gamma^{-1}\omega^{-1})$
$\bar{E}'(\mathbb{F}_{p^4})$
$\bar{\mathbb{G}}'_2$
$\bar{E}'(\mathbb{F}_{p^4}) : y^2 = x^3 + a(\beta z^2)^{-1}x$