Erratum: Implementing universal nonadiabatic holonomic quantum gates with transmons **[Phys. Rev. A *97*, 022332 (2018)]**

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In the original paper there are typographical errors that should be corrected as listed in the following.

In the main text, the angle in Fig. 1(b) should be γ as indicated in Eq. (2). The corrected figure is now shown in Fig. 1. Meanwhile, on p. 4, below Eq. (7), $F_2 = 99.44\%$. The original fidelity 99.27%, which contains nonexisting decoherence, was used by mistake.

In Appendix A, on the first line of p. 5, the corrected form of a transmon's lower operator should be $b = |g\rangle\langle e| + \sqrt{2}|e\rangle\langle f| + \sqrt{3}|f\rangle\langle h| + \dots$. Meanwhile, the definition of α in Appendix A and the main text has opposite signs, and thus the first lines of Eqs. (A1), (A2), and (A9) should read

$$H_0 = \delta_r n_a + \delta_q n_b - \frac{\alpha}{2}(n_b - 1)n_b, \quad (\text{A1})$$

$$E_{f,0} = 2\delta_q - \alpha, \quad E_{g,1} = \delta_r, \quad (\text{A2})$$

and

$$\begin{aligned} \eta_{g1} &= \frac{g^2}{\Delta} - \frac{\Omega^2}{4(\Delta + \alpha)} \\ \eta_{f0} &= \frac{\Omega^2}{2\Delta} - \frac{2g^2}{\Delta + \alpha} - \frac{3\Omega^2}{4(\Delta - \alpha)} \\ \tilde{g} &= \frac{\sqrt{2}g\Omega e^{-i\phi}}{2\Delta} - \frac{\sqrt{2}g\Omega e^{-i\phi}}{2(\Delta + \alpha)} \\ &= \frac{g\Omega e^{-i\phi}\alpha}{\sqrt{2}\Delta(\Delta + \alpha)}. \end{aligned} \quad (\text{A9})$$

FIG. 1. Corrected panel (b).

In addition, the inline formula between Eqs. (A2) and (A3) should be corrected as $\delta_r = 2\delta_q - \alpha$. Finally, in Appendix B, the last unnumbered equation should read

$$\langle \phi_j(\Omega) | \frac{\partial H}{\partial \Omega} | \phi_i(\Omega) \rangle + \frac{d\omega}{d\Omega} \langle \phi_j(\Omega) | \frac{\partial H}{\partial \omega} | \phi_i(\Omega) \rangle = 0.$$

All the corrected forms of the equations are actually used in our calculations. Therefore, these typographical errors do not affect any other results of the paper.