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<th>Ultrafast exciton-exciton coherent transfer in molecular aggregates and its application to light-harvesting systems (Erratum)</th>
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<td>Kim, Hyeon-Deuk; Tanimura, Yoshitaka; Cho, Minheang</td>
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Kyoto University

Kim Hyeon-Deuk,1,a Yoshitaka Tanimura,1 and Minhaeng Cho2,3
1Department of Chemistry, Kyoto University, Kyoto 606-8502, Japan
2Department of Chemistry and Center for Multidimensional Spectroscopy, Korea University, Seoul 136-701, Republic of Korea
3Multidimensional Spectroscopy Laboratory, Korea Basic Science Institute, Seoul 136-701, Republic of Korea

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A few equations in our recent paper,1 which will be referred to as Paper I, were found to be inaccurate. First of all, \( q^{(c)}_\mu \) in Eq. (6) should be replaced by \( q^{(c)}_{\mu \nu} \). Equations (14) and (15) should also be corrected as

\[
P_{\mu \rho} = \tilde{\rho}_{\mu \rho}(q_j)|\text{Tr}(q)|[\rho_{\mu \rho}] = \tilde{\rho}_{\mu \rho}, \tag{14}
\]

where \( \rho = \rho(q_j) \) is the density matrix, and the equilibrium density matrix in the \( \mu \)th exciton is

\[
\tilde{\rho}_{\mu \rho}(q_j) = \frac{\exp[-\beta H_{\mu \rho}(q_j)]}{Z}. \tag{15}
\]

Similarly, Eq. (16) should be corrected. The definition of the Green function for the exciton-exciton coherence transfer (EECT) in Eq. (32) of Paper I should be corrected as

\[
\tilde{G}_{\lambda \lambda'}(t_2) = \text{Tr}[\tilde{\Lambda} \hat{G}_{\lambda \lambda'}(t_2) \tilde{\rho}_{\lambda'}]. \tag{32}
\]

Accordingly, \( \tilde{\rho}_{\lambda'} \) in Eq. (31) should be removed. We took the trace of Eq. (39) over bath modes, and the system and bath are assumed to be initially uncorrelated, i.e., \( \tilde{\rho}_{\lambda'} = \rho_{\lambda'}(0) = \rho_{\lambda'}(q_j)|\text{Tr}(q)|[\rho_{\lambda'}(0)] \). Note that \( \tilde{\rho}_{\lambda'} \) should be added to the ends of both sides of Eq. (40). Thus, Eq. (41) is independent of any bath modes and only describes the time-evolution of system’s coherence. Appendix B of Paper I should be similarly corrected. We emphasize, however, that the time-evolution equation of the Green function for EECE, Eq. (43) of Paper I, is correct, although there is one typographical error: \( \gamma \) in the integrand should be changed to \( \lambda \).

Second, \( \hat{G}_{PP} \) and \( \hat{G}_{QP} \) in Appendix A should be corrected as

\[
\hat{G}_{PP}(t_2) = -i \int_0^{t_2} dt' P e^{-iL t_2} (P + Q) \hat{G}(t_2) e^{-iL t_1} P \tag{42}
\]

and

\[
\hat{G}_{QP}(t_2) = -i \int_0^{t_2} dt' Q e^{-iL t_2} (P + Q) \hat{Q} e^{-iL t_1} Q \tag{43}
\]

Therefore, we do not have to consider the above higher-order contributions in our calculation. We also note that Eqs. (A6) and (A7) can be removed, since we took \( \hat{G}_{PP}(t_2) \) into consideration as the exciton population transfer contribution.

\[\text{FIG. 3. (Color) (a) The time-resolved echo signals } |R(t_3, t_2, t_1)|^2 \text{ vs } t_1 \text{ and } t_3 \text{ with } t_2 = 100 \text{ fs. The main peak is smaller than that in Fig. 3(a) of Paper I.}\]
Lastly, we recalculated the spectroscopic results in Sec. IX of Paper I with the new parameters; the eigen-energy of \( B850 \sim \bar{m} = 11280 \text{ cm}^{-1} \), the full width at half maximum \( \bar{m} = 225 \text{ cm}^{-1} \), and the homogeneous parameter \( \kappa = 1200 \text{ cm}^{-1} \). In the numerical calculations of the nonlinear optical signals and spectra shown in Paper I, we incorrectly excluded the term \( -R_{EECT(t_3,0,t_1)} \). We found that the recalculated absorption spectrum of \( B850 \) with the above parameters is in agreement with the experimental result in Fig. 8 of Ref. 2. Figures 3(a), 4, 5(a), and 6(a) are the recalculated 2D time-resolved photon echo signal, photon echo peak shift, and 2D photon echo, respectively. All the results have been averaged over 1000 realizations of the static disorder.