

Corrections

BIOCHEMISTRY

Correction for “Arginine ADP-ribosylation mechanism based on structural snapshots of iota-toxin and actin complex,” by Toshiharu Tsurumura, Yayoi Tsumori, Hao Qiu, Masataka Oda, Jun Sakurai, Masahiro Nagahama, and Hideaki Tsuge, which appeared in issue 11, March 12, 2013, of *Proc Natl Acad Sci USA* (110:4267–4272; first published February 4, 2013; 10.1073/pnas.1217227110).

The authors note that Fig. 7 appeared incorrectly. There was a drawing error in the nicotinamide of NAD⁺ within Fig. 7*A*, and distance values were refined based on the last coordinate. The corrected figure and its legend appear below. This error does not affect the conclusions of the article.

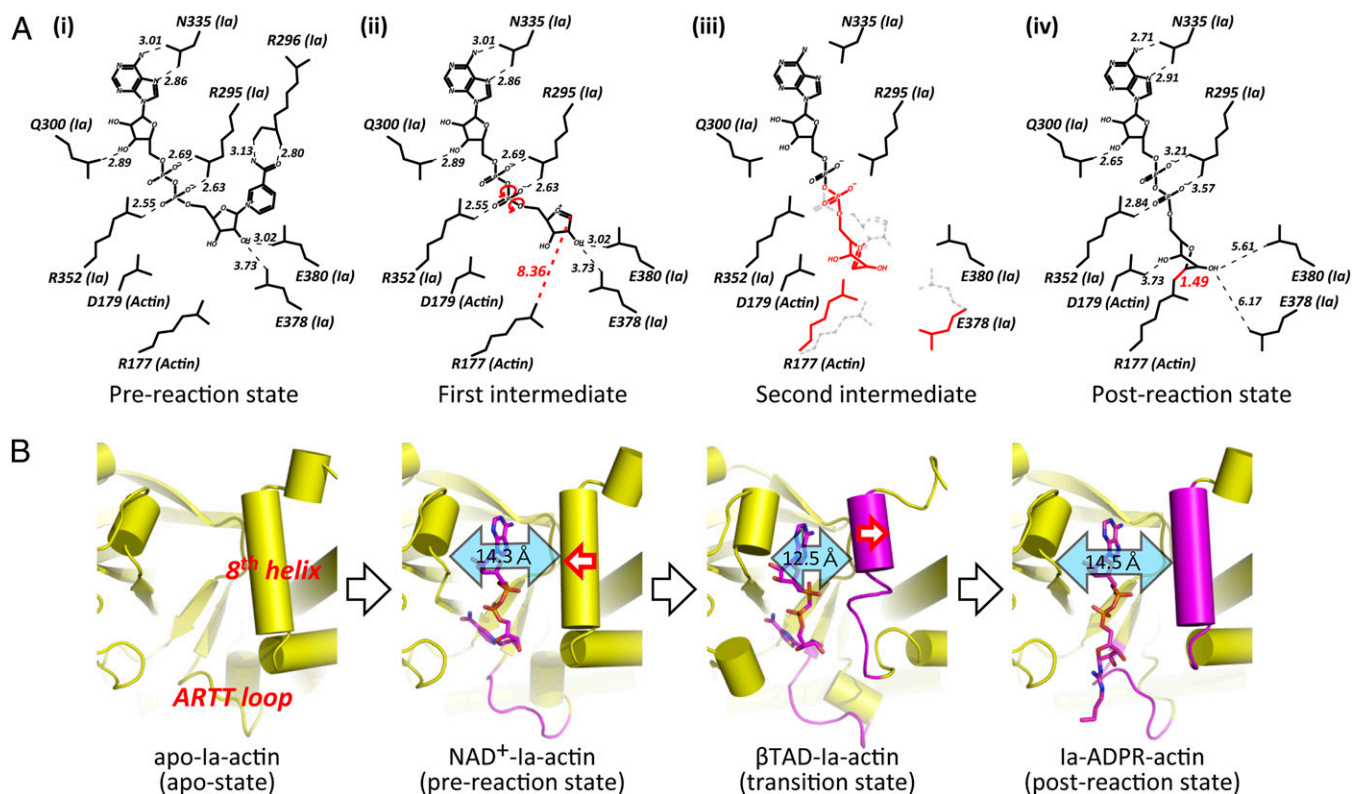


Fig. 7. Schematic illustrating the mechanism of ADP-ribosylation. (A) SN1 mechanism in Ia: (i) NAD⁺-Ia-Actin as the prereaction state; (ii) nicotinamide cleavage occurs via an SN1 reaction induced by an NMN ring-like structure and the first oxocarbenium cation intermediate is formed with a strained conformation; (iii) the second cationic intermediate is induced through alleviation of the strained conformation mainly by O3-NP and NP-NO5 rotation, and then NC1 of N-ribose nucleophilically attacks Arg177 of actin; (iv) Ia-ADPR-actin as the postreaction state. (B) Successive structures during ADP-ribosylation and the structure of each reaction: step 1 [apo-Ia-actin (apo-state)], step 2 [NAD⁺-Ia-actin (pre-reaction state)], step 3 [βTAD-Ia-actin (transition state)], and step 4 [Ia-ADPR-actin (post-reaction state)].

www.pnas.org/cgi/doi/10.1073/pnas.1304997110

ENVIRONMENTAL SCIENCES

Correction for “Cesium-137 deposition and contamination of Japanese soils due to the Fukushima nuclear accident,” by Teppei J. Yasunari, Andreas Stohl, Ryugo S. Hayano, John F. Burkhart, Sabine Eckhardt, and Tetsuzo Yasunari, which appeared in issue 49, December 6, 2011, of *Proc Natl Acad Sci USA* (108:19530–19534; first published November 14, 2011; 10.1073/pnas.1112058108).

The authors note the following: “Due to the corrections on some of the observed daily ^{137}Cs deposition numbers made by the MEXT (Ministry of Education, Culture, Sports, Science and Technology in Japan; available on the MEXT website in Japanese at <http://radioactivity.mext.go.jp/ja/list/195/list-1.html>) mainly at Kanagawa prefecture along with some minor corrections at other prefectures, the objectively estimated deposition values in the paper have been revised by using the updated input data on the observed ^{137}Cs deposition by MEXT.”

The authors also note that on page 19530, left column, within the abstract, lines 22–23, “were estimated to be more than 5.6 and 1.0 PBq, respectively” should instead appear as “were estimated to be approximately 6.7 and 1.3 PBq, respectively.”

On page 19531, left column, second full paragraph, line 5, “(TRMM, 3B42 V6 product)” omitted the following references:

27. Huffman GJ (1997) Estimates of root-mean-square random error for finite samples of estimated precipitation. *J Appl Meteor* 36:1191–1201.
28. Huffman GJ, et al. (2007) The TRMM multisatellite precipitation analysis (TMPA): Quasi-global, multiyear, combined-sensor precipitation estimates at fine scales. *J Hydro-meteorol* 8(1):38–55.

On page 19531, right column, first full paragraph, lines 4–8, “Our estimates show that the area around NPP in Fukushima, secondarily effected areas (Miyagi and Ibaraki prefectures), and other effected areas (Iwate, Yamagata, Tochigi, and Chiba prefectures) had ^{137}Cs depositions of more than 100,000, 25,000, and 10,000 MBq km $^{-2}$, respectively” should instead appear as “Our estimate in Fig. 24 for the case of DRT of 0.005 showed that the area around the Nuclear Power Plant (NPP) in Fukushima, secondarily effected areas (Miyagi prefecture), and other effected areas (Iwate, Yamagata, Tochigi, Ibaraki, and Chiba prefectures) had partially ^{137}Cs depositions of more than 100,000, 50,000, and 10,000 MBq km $^{-2}$, respectively.”

On page 19531, right column, first full paragraph, lines 22–23, “on the similar order of the MEXT/DOE observations using a DRT value of 0.001 (Fig. S4)” should instead appear as “closer to the order of the MEXT/DOE observations around the NPP using a DRT value of 0.001 (Fig. S4).”

On page 19533, left column, first paragraph, lines 1–6, “some neighboring prefectures such as Miyagi, Tochigi, and Ibaraki are partially close to the limit under our upper bound estimate (Movie

S4) and, therefore, local-scale exceedance is likely given the strong spatial variability of ^{137}Cs deposition. For those three prefectures, detailed soil sampling is recommended in the near future” should instead appear as “some neighboring prefectures such as Iwate, Yamagata, Miyagi, Tochigi, and Ibaraki are partially close to the limit under the upper bound estimate with DRT of 0.001 (i.e., “the highest deposition estimate” in our estimates with DRTs of 0.001–0.1) [using CCs of 38, 53, and 68 kg m $^{-2}$ (Movie S4)] and, therefore, local-scale exceedance is likely given the strong spatial variability of ^{137}Cs deposition. For those prefectures, detailed soil sampling is recommended in the near future.”

On page 19533, left column, second full paragraph, line 1, “We estimate that a total of more than 5.6 and 1.0 PBq ^{137}Cs ” should instead appear as “We estimate that a total of approximately 6.7 and 1.3 PBq ^{137}Cs .”

On page 19533, left column, second full paragraph, line 9, “(Fig. 3)” should instead appear as “with DRT of 0.001 using CC of 53 kg m $^{-2}$ (Fig. 3).”

On page 19533, left column, second full paragraph, lines 13–15, “such as Iwate, Miyagi, Yamagata, Niigata, Tochigi, Ibaraki, and Chiba, where values of more than 250 Bq kg $^{-1}$ cannot be excluded (Fig. 3 and Movie S4)” should instead appear as “such as Iwate, Miyagi, Yamagata, Niigata, Tochigi, Ibaraki, Chiba, etc., where values of more than 250 Bq kg $^{-1}$ cannot be excluded for the estimated soil contaminations under the upper bound estimate on the deposition with DRT of 0.001 (i.e., “the highest deposition estimate” in our estimates with DRTs of 0.001–0.1) using CCs of 38, 53, and 68 kg m $^{-2}$ (Fig. 3 and Movie S4).”

On page 19533, left column, second full paragraph, line 20 before “Therefore,” the following sentence should be added: “In addition, the spatiotemporally limited ^{137}Cs deposition data by the MEXT observations were used in our estimates, which also included such as no measurements (Miyagi) and missing observations (Yamagata and Fukushima) for the time period in this study.”

On page 19533, right column, first paragraph, lines 3–4, “Fukushima, March 18–March 26 and April 4; Gifu, March 24, 25, 27, 28, and 30; Nara, March 18–21 and April 15–18” should instead appear as “Fukushima, March 18–March 26; Gifu, March 24; Nara, March 18–20 and April 15–18.”

On page 19533, right column, second full paragraph, line 18, “counting N on each day” should instead appear as “counting N on each day, for which unavailable, missing, and no detection on the observed depositions were all computationally treated as zero deposition.”

Last, the legends for Figs. 1, 2, 3, and 4 appeared incorrectly. The figures and their corrected legends appear below. These errors do not affect the conclusions of the article.

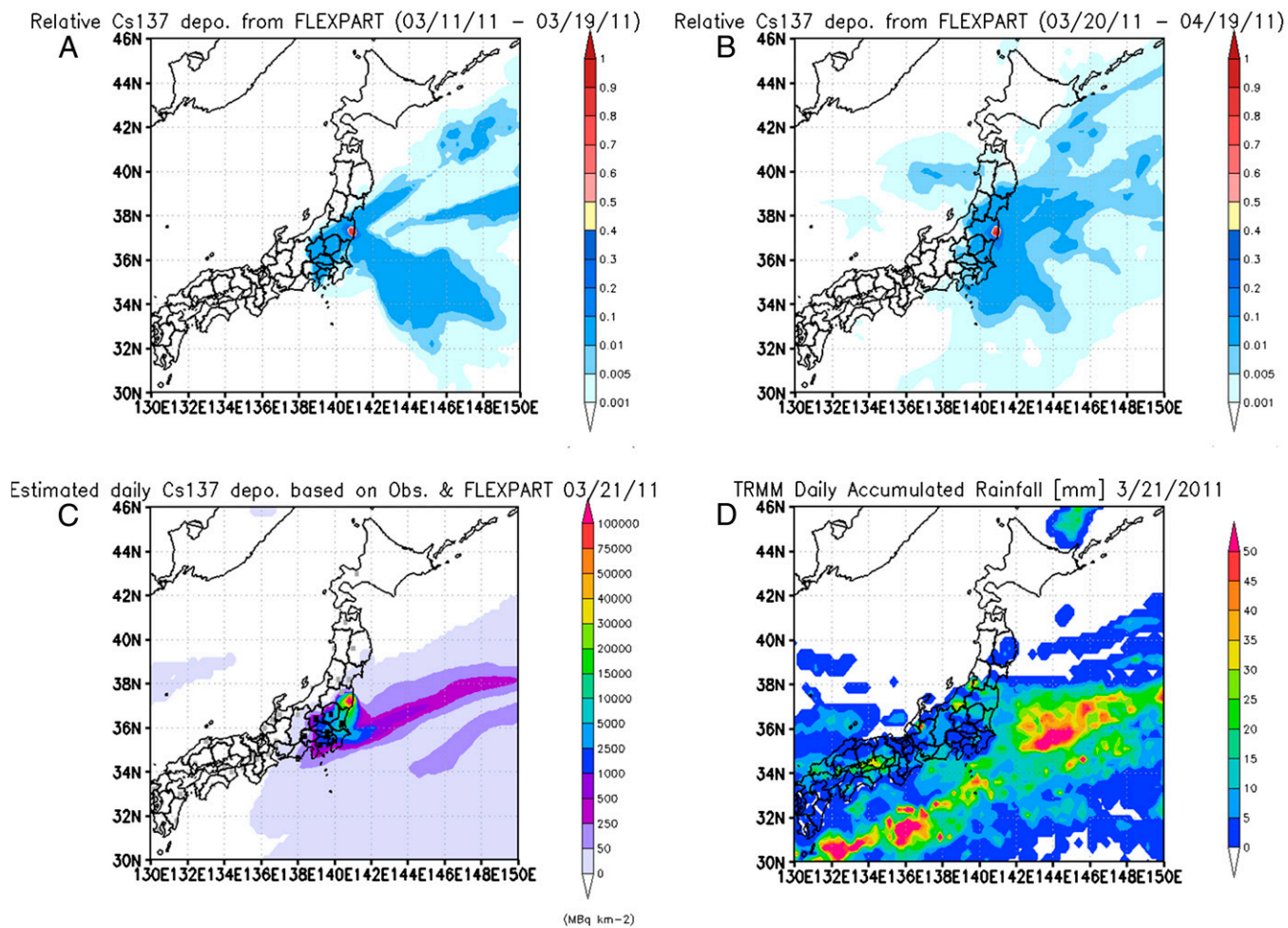


Fig. 1. Cesium-137 deposition maps. (A) Relative deposition contributions between March 11 and 19, showing the areas potentially effected by ^{137}Cs before the start of measurements. The sums of the depositions during the period were divided by the maximum deposition in the accumulated field. (B) The same as in A, but for March 20–April 19. (C) An example of estimated daily deposition of ^{137}Cs on March 21. Squares in gray and black denote observatories (Table S2) that did have computational zero ^{137}Cs deposition (unavailable, missing, or no detection) or daily DR = 0, and detected the depositions used for making the estimation map for the deposition, respectively. (D) Daily accumulated rainfall on March 21 by TRMM [3B42 V6 product: (27, 28)].

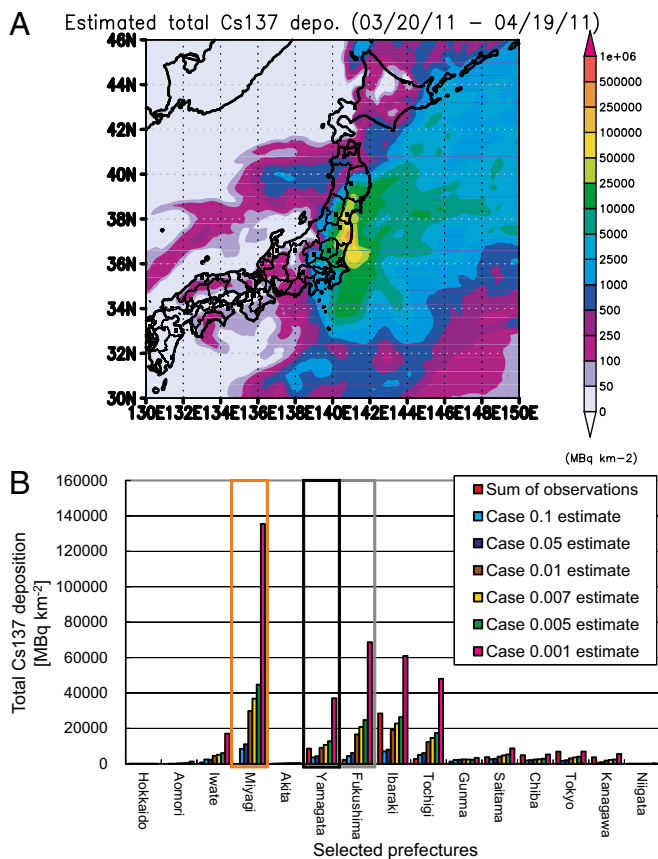


Fig. 2. Total deposition of ¹³⁷Cs. (A) Gridded total ¹³⁷Cs deposition values for the period March 20–April 19 using our reference DRT value of 0.005. Outputs with 0.2° × 0.2° were interpolated to finer grid using cubic interpolation. Squares in black denote the observation locations in each prefecture (Table S2). (B) Comparisons between total observed depositions for the period March 20–April 19 and estimates at the grid point of each observatory location (Table S2) in the selected prefectures, using different DRT values to derive the scaling factor for the model output. Orange, black, and gray boxes denote no observation (Miyagi) and missing observations (Yamagata, between March 29 and April 3; Fukushima, before March 27), respectively.

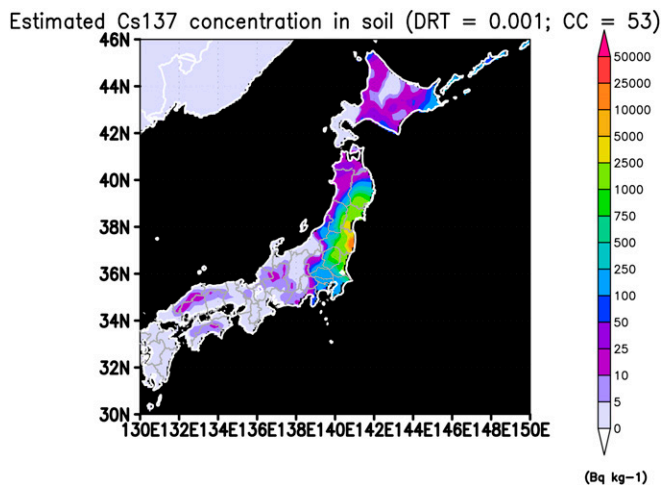


Fig. 3. The estimated ¹³⁷Cs concentration in soil. We used DRT of 0.001 (upper bound estimate on ¹³⁷Cs deposition within all of our estimates with DRTs of 0.001–0.1) and CC of 53 kg m⁻². Outputs with 0.2° × 0.2° were interpolated to finer resolution using cubic interpolation. The Merged IBCAO/ETOPO5 Global Topographic Data Product (25) was used to mask out ocean area below 0 m above sea level (a.s.l.).

CORRECTIONS

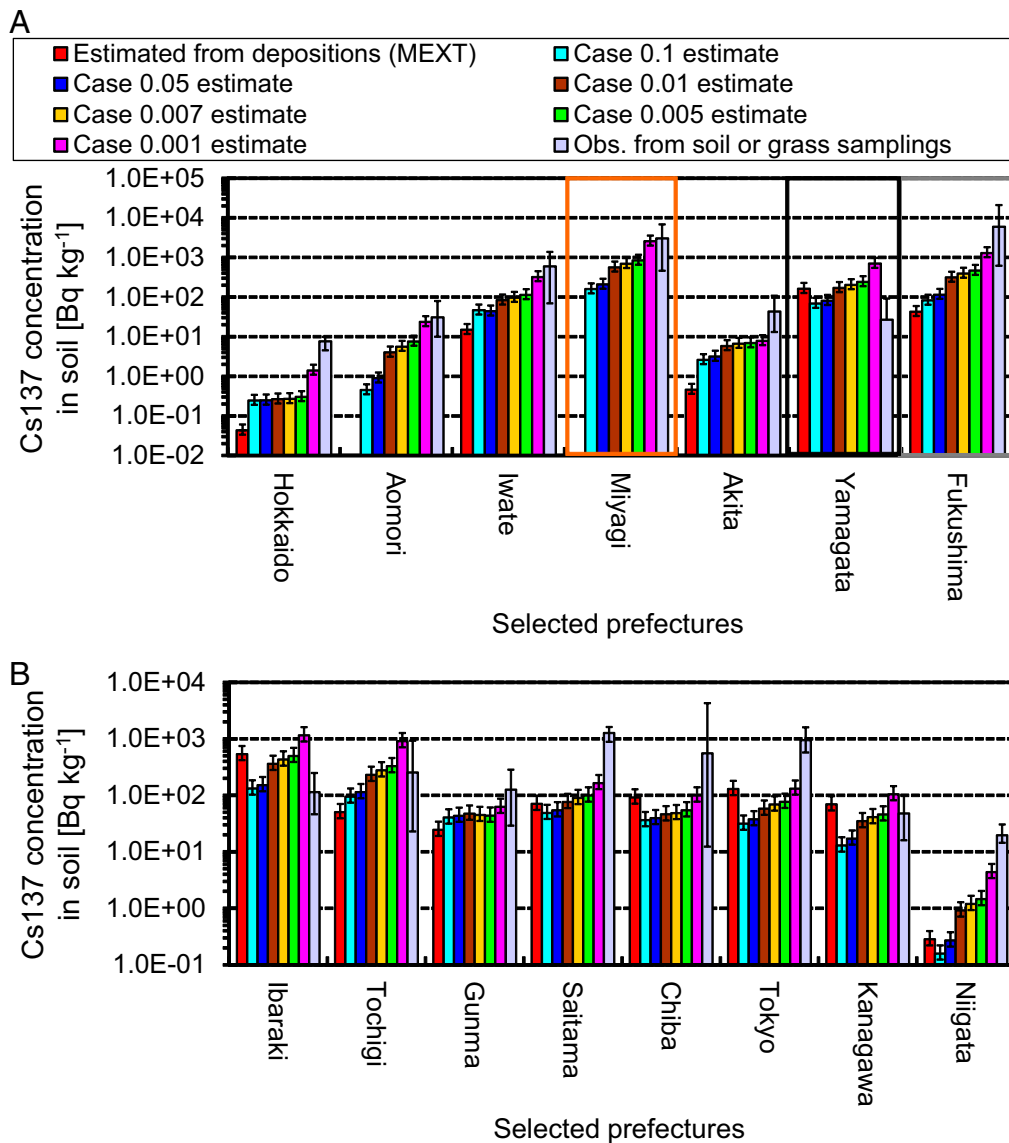


Fig. 4. Observation-based ^{137}Cs concentrations in soil (estimates from the depositions by MEXT; the direct soil samples; conversion from the grass samples; the data sources for the soil and grass samples are shown in Table S1) and estimates of the concentration in soil based on the scaled model output with the different DRTs of 0.001–0.1 and the CCs of 38, 53, and 68 kg m^{-2} . (A) Comparisons in northern prefectures. Aomori and Miyagi prefectures had no ^{137}Cs detections on the daily deposition data and no measurements, respectively. The minimum value in Yamagata prefecture for the soil observations is no detection and no lower error bar is shown. (B) The same as in A, but around Kanto area. Lower and upper error bars denote minimum and maximum concentrations for which the estimates use the CCs of 68 and 38 kg m^{-2} based on Fig. S5, respectively. Orange, black, and gray boxes denote no observation (Miyagi) and missing observations (Yamagata, between March 29 and April 3; Fukushima, before March 27), respectively. A soil-to-grass transfer factor of 0.13 (23) was used to convert grass to soil contamination. For Fukushima prefecture, only the soil observations in Fukushima City were used, excluding other observations close to the Fukushima NPP. The data source for the comparisons are summarized in Table S1. The estimates based on the observed depositions by the MEXT and the DRTs of 0.001–0.1 were the estimates at the locations of each observatory in each prefecture as shown in Table S2. Those estimated numbers for the cases with CC of 53 kg m^{-2} were also shown in Table S4.

www.pnas.org/cgi/doi/10.1073/pnas.1301231110