ERRATA:
ℓ-ADIC IMAGES OF GALOIS FOR ELLIPTIC CURVES OVER \( \mathbb{Q} \)

JEMERY ROUSE, ANDREW V. SUTHERLAND, DAVID ZUREICK-BROWN
WITH JOHN VOIGHT

This note gives errata for the article \( \ell \)-adic images of Galois for elliptic curves over \( \mathbb{Q} \) [1].

(1) Page 9, line 7: “that contain a conjugate of” should be “fixed by the action of”.

(2) Table 9, section 11: The totals listed in the ”SW” line of the first part of Table 9 are incorrect due to double counting 312435 elliptic curves of prime conductor that are included in two parts of the Stein–Watkins database. The Stein–Watkins database contains all elliptic curves over \( \mathbb{Q} \) of absolute discriminant at most \( 10^{12} \) that have \( c_6 \)-invariant of absolute value at most \( 1.44 \cdot 10^{12} \) whose conductor \( N \) meets either of the following criteria (which are not mutually exclusive): (1) \( N \leq 10^8 \), (2) \( N \leq 10^{10} \) is prime.

The corrected counts in the first part of the table are:

<table>
<thead>
<tr>
<th>SW</th>
<th>35585316</th>
<th>3671438</th>
<th>181222</th>
<th>43966</th>
<th>2048</th>
<th>7444</th>
<th>368</th>
<th>1024</th>
<th>97776484</th>
<th>136789294</th>
</tr>
</thead>
</table>

The counts in the second part of the table are the same (none of the double-counted curves are non-surjective at more than one prime).

(3) Proposition A.6: the final phrase should be “conductor dividing \( N \)” (not “character of modulus \( N \)”).

REFERENCES

[1] Jeremy Rouse, Andrew V. Sutherland, and David Zureick-Brown, \( \ell \)-adic images of Galois for elliptic curves over \( \mathbb{Q} \), appendix with John Voight, Forum Math. Sigma 10 (2022), e62.