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CLASSIFICATION OF 4- AND 5-ARC-TRANSITIVE CUBIC GRAPHS OF SMALL GIRTH: CORRIGENDUM

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The purpose of this brief note is to point out an omission, at the top of page 145, in my paper [1]. Richard Weiss has kindly pointed out that there exist 5-arc-transitive graphs with no 4-arc regular group of automorphisms. In fact such a graph was constructed by Conder and Lorimer in [2]. The appropriate calculations for the group G_5 have now been carried out. The results are as follows, and they provide no further examples not already included in the lists in [1].

Circuit length	Relator	Index of $\langle h, p, q, r, s\rangle$
8	$a(ha)^4(h^2a)^3h^2pq$	30
10	$a(ha)^{10}$	90
12	$(ha)^{12}$	468
12	$a(ha)^6(h^2aha)^2hah^2pq$	30
12	$a(ha)^5h^2a(ha)^2h^2ahah^2ahps$	14
12	$a(ha)^5(h^2aha)^2hah^2ahps$	30
12	$a(ha)^4h^2a(ha)^2(h^2aha)^2hpq$	90
12	$a(ha)^4(h^2aha)^2hah^2ahah^2pqrs$	30
12	$a(ha)^4(h^2a)^4ha(h^2a)^2hqs$	650
13	$a(ha)^4(h^2a)^4ha(h^2a)^2hahprs$	234

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[1] M. Morton, 'Classification of 4- and 5-arc-transitive cubic graphs of small girth,' *J. Austral. Math. Soc.* (*Series A*) **50** (1991), 138–149.

[2] M. Conder and P. Lorimer, 'Automorphism groups of symmetric graphs of valency 3', *J. Combinatorial Theory* (*Series B*) **47** (1989), 60–72.

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