A list of 2-arc-transitive graphs

Γ	$\lvert V\Gamma\rvert$	$\lvert G_{uv}\rvert$	$G_v^\Gamma(v)$	g	d	Bip	s	Amalgam types
A[5,1]	5	$2\cdot 3$	S_4	3	1	no	2	A_4s, S_4
A[8,1]	8	$2^2\cdot 3^2$	S_4	4	2	yes	3	A_4s, A_4x, S_4, $C_3\times A_4$, $C_3\rtimes S_4$, $C_3\rtimes S_4^*$, $S_3\times S_4$
A[10,1]	10	$2\cdot 3$	S_4	4	3	yes	2	A_4s, A_4x, S_4
A[14,1]	14	$2\cdot 3$	S_4	4	3	yes	2	S_4
A[16,1]	16	$2\cdot 3$	S_4	4	4	yes	2	A_4s, A_4x, S_4
A[26,1]	26	$2^2\cdot 3^3$	S_4	6	3	yes	4	4-AT
A[28,1]	28	$2\cdot 3$	S_4	6	4	yes	2	A_4s, A_4x, S_4
A[30,1]	30	$2\cdot 3$	S_4	6	4	yes	2	A_4s, A_4x, S_4
A[32,1]	32	$2\cdot 3^2$	S_4	6	4	yes	3	A_4s, A_4x, S_4, $C_3\times A_4$, $C_3\rtimes S_4$
A[35,1]	35	$2^2\cdot 3^2$	S_4	6	3	no	3	$C_3\rtimes S_4^*$, $S_3\times S_4$
A[54,1]	54	$2\cdot 3$	S_4	6	5	yes	2	A_4s, A_4x, S_4
A[55,1]	55	$2\cdot 3$	S_4	5	4	no	2	A_4x, S_4
A[64,1]	64	$2\cdot 3$	S_4	6	6	yes	2	A_4s, A_4x, S_4
A[70,1]	70	$2^2\cdot 3^2$	S_4	6	7	yes	3	$C_3\rtimes S_4$, $C_3\rtimes S_4^*$, $S_3\times S_4$
A[84,1]	84	$2\cdot 3$	S_4	6	6	yes	2	A_4s, A_4x, S_4
A[91,1]	91	3	A_4	6	5	no	2	A_4s
A[91,2]	91	$2\cdot 3$	S_4	7	5	no	2	A_4x, S_4
A[110,1]	110	$2\cdot 3$	S_4	8	5	yes	2	A_4s, A_4x, S_4
A[120,1]	120	$2\cdot 3$	S_4	6	6	yes	2	A_4s, A_4x, S_4
A[120,2]	120	3	A_4	6	6	yes	2	A_4s
A[126,1]	126	3	A_4	8	5	no	2	A_4x
A[128,1]	128	$2\cdot 3$	S_4	6	8	yes	2	A_4s, A_4x, S_4
A[128,2]	128	$2^2\cdot 3^2$	S_4	8	6	yes	3	A_4s, A_4x, S_4, $C_3\times A_4$, $C_3\rtimes S_4$, $C_3\rtimes S_4^*$, $S_3\times S_4$
A[128,3]	128	$2\cdot 3$	S_4	8	6	yes	2	A_4s, A_4x, S_4
A[140,1]	140	$2^2\cdot 3^2$	S_4	8	7	yes	3	$C_3\times A_4$, $C_3\rtimes S_4$, $C_3\rtimes S_4^*$, $S_3\times S_4$
A[160,1]	160	$2\cdot 3$	S_4	6	6	yes	2	A_4s, A_4x, S_4
A[165,1]	165	$2\cdot 3$	S_4	5	8	no	2	A_4x, S_4
A[182,1]	182	3	A_4	6	7	yes	2	A_4s
A[182,2]	182	$2\cdot 3$	S_4	8	7	yes	2	A_4s, A_4x, S_4
A[204,1]	204	3	A_4	8	6	no	2	A_4s
A[204,2]	204	$2\cdot 3$	S_4	8	6	yes	2	S_4
A[210,1]	210	$2\cdot 3$	S_4	6	7	yes	2	S_4
A[216,1]	216	$2\cdot 3$	S_4	6	8	yes	2	A_4s, A_4x, S_4
A[240,1]	240	3	A_4	6	10	yes	2	A_4s
A[240,2]	240	$2\cdot 3$	S_4	8	7	yes	2	A_4s, A_4x, S_4
A[250,1]	250	$2\cdot 3$	S_4	6	9	yes	2	A_4s, A_4x, S_4
A[252,1]	252	3	A_4	8	9	yes	2	A_4x
A[253,1]	253	$2\cdot 3$	S_4	6	6	no	2	S_4
A[256,1]	256	$2\cdot 3$	S_4	6	8	yes	2	A_4s, A_4x, S_4
A[256,2]	256	$2\cdot 3$	S_4	8	8	yes	2	A_4s, A_4x, S_4
A[273,1]	273	$2\cdot 3$	S_4	7	7	no	2	A_4x, S_4
A[285,1]	285	$2\cdot 3$	S_4	9	6	no	2	A_4s, S_4
A[300,1]	300	$2\cdot 3$	S_4	5	8	no	2	A_4s, S_4
A[320,1]	320	$2\cdot 3$	S_4	6	10	yes	2	A_4s, A_4x, S_4
A[320,2]	320	3	A_4	8	6	yes	2	A_4s
A[330,1]	330	$2\cdot 3$	S_4	8	9	yes	2	A_4s, A_4x, S_4
A[336,1]	336	3	A_4	6	7	yes	2	A_4s
A[336,2]	336	$2\cdot 3$	S_4	8	6	yes	2	A_4s, A_4x, S_4
A[340,1]	340	3	A_4	8	7	no	2	A_4s
A[408,1]	408	3	A_4	8	9	yes	2	A_4s
A[408,2]	408	3	A_4	8	8	yes	2	A_4s
A[408,3]	408	$2\cdot 3$	S_4	8	8	yes	2	A_4s, A_4x, S_4
A[420,1]	420	$2\cdot 3^2$	S_4	10	8	yes	3	A_4s, A_4x, S_4, $C_3\times A_4$, $C_3\rtimes S_4$
A[432,1]	432	$2\cdot 3$	S_4	6	12	yes	2	A_4s, A_4x, S_4
A[432,2]	432	3	A_4	8	8	yes	2	A_4s
A[440,1]	440	$2^2\cdot 3^3$	S_4	10	6	yes	4	4-AT
A[468,1]	468	$2\cdot 3$	S_4	6	9	yes	2	S_4
A[480,1]	480	$2\cdot 3$	S_4	6	8	yes	2	A_4s, A_4x, S_4
A[480,2]	480	$2\cdot 3$	S_4	8	8	yes	2	A_4s, A_4x, S_4
A[504,1]	504	3	A_4	9	8	no	2	A_4x
A[506,1]	506	3	A_4	8	7	no	2	A_4s
A[506,2]	506	$2\cdot 3$	S_4	9	7	no	2	A_4s, S_4
A[506,3]	506	$2\cdot 3$	S_4	9	7	no	2	A_4x, S_4
A[506,4]	506	$2\cdot 3$	S_4	6	9	yes	2	S_4
A[512,1]	512	$2\cdot 3$	S_4	6	12	yes	2	A_4s, A_4x, S_4
A[512,2]	512	$2\cdot 3$	S_4	8	8	yes	2	A_4s, A_4x, S_4
A[512,3]	512	$2\cdot 3$	S_4	8	8	yes	2	A_4s, A_4x, S_4
A[512,4]	512	$2\cdot 3$	S_4	8	8	yes	2	A_4s, A_4x, S_4
A[512,5]	512	$2\cdot 3^2$	S_4	10	8	yes	3	A_4s, A_4x, S_4, $C_3\times A_4$, $C_3\rtimes S_4$
A[512,6]	512	3	A_4	8	8	yes	2	A_4x

$|V(\Gamma)|$ – the number of vertices; $|G_{uv}|$ – the size of the arc-stabiliser in the automorphism group; $G_u^{\Gamma(u)}$ – the permutation group induced by the action of the stabiliser G_u on the neighbours of u; g – girth; d – diameter.

For more information, see the preprint "Group amalgams of index $(4,2)$ and 2-arc-transitive tetravalent graphs.