Table 1: New families of optimal chordal networks 1

N	s	p	$d \bmod p$
$\frac{3d^2}{2} - 7d - \frac{9}{2}$	$\frac{3d^2}{4} - 5d - \frac{11}{4}$	4	1
$\frac{3d^2}{2} - 7d - \frac{9}{2}$	$ \frac{3d^2}{4} - 5d + \frac{13}{4} \\ \frac{3d^2}{4} - 4d + \frac{9}{4} \\ \frac{3d^2}{4} - 3d + \frac{5}{4} $	4	1
$\frac{3d^2}{2} - 5d - \frac{5}{2}$	$\left  \frac{3d^2}{4} - 4d + \frac{9}{4} \right $	4	1
$\frac{3d^2}{2} - 3d - \frac{1}{2}$	$\left  \frac{3d^2}{4} - 3d + \frac{5}{4} \right $	4	1
$\frac{3d^2}{3} - 3d + \frac{7}{3}$	$\left[\begin{array}{c} \frac{3d^2}{4} - 3d + \frac{13}{4} \\ \frac{3d^2}{4} - 3d + \frac{13}{4} \end{array}\right]$	4	1
$\frac{3d^2}{3} - 3d + \frac{15}{3}$	$\left[\begin{array}{c} \frac{3d^2}{4} - 3d + \frac{21}{4} \\ \frac{3d^2}{4} - 3d + \frac{21}{4} \end{array}\right]$	$\frac{1}{4}$	1
$\frac{3d^2}{3} - 6d - \frac{15}{3}$	$\frac{3d^2}{1} - \frac{9d}{2} - \frac{21}{1}$	$\frac{1}{4}$	1
$\frac{3d^2}{3} - 6d - \frac{7}{3}$	$\frac{3d^2}{3d^2} - \frac{9d}{3} - \frac{13}{4}$	$\frac{1}{4}$	1
$\frac{3d^2}{3} - 6d - \frac{7}{3}$	$\frac{3d^2}{4} - \frac{9d}{2} - \frac{21}{4}$ $\frac{3d^2}{4} - \frac{9d}{2} - \frac{13}{4}$ $\frac{3d^2}{4} - \frac{9d}{2} + \frac{11}{4}$	4	1
$\begin{array}{ c c c c }\hline \frac{3d^2}{2} - 7d - \frac{9}{2}\\ \frac{3d^2}{2} - 7d - \frac{9}{2}\\ \frac{3d^2}{2} - 5d - \frac{5}{2}\\ \frac{3d^2}{2} - 3d - \frac{1}{2}\\ \frac{3d^2}{2} - 3d + \frac{7}{2}\\ \frac{3d^2}{2} - 3d + \frac{15}{2}\\ \frac{3d^2}{2} - 6d - \frac{15}{2}\\ \frac{3d^2}{2} - 6d - \frac{7}{2}\\ \frac{3d^2}{2} - 6d - \frac{7}{2}\\ \frac{3d^2}{2} - 4d - \frac{3}{2}\\ \frac{3d^2}{2} - 2d + \frac{1}{2}\\ \frac{3d^2}{2} - 2d + \frac{9}{2}\\ 3$	$\begin{array}{c} \frac{3d^2}{4} - 5d + \frac{13}{4} \\ \frac{3d^2}{4} - 4d + \frac{9}{4} \\ \frac{3d^2}{4} - 3d + \frac{5}{4} \\ \frac{3d^2}{4} - 3d + \frac{13}{4} \\ \frac{3d^2}{4} - 3d + \frac{21}{4} \\ \frac{3d^2}{4} - \frac{9d}{2} - \frac{21}{4} \\ \frac{3d^2}{4} - \frac{9d}{2} - \frac{13}{4} \\ \frac{3d^2}{4} - \frac{9d}{2} + \frac{11}{4} \\ \frac{3d^2}{4} - \frac{7d}{2} + \frac{7}{4} \\ \frac{3d^2}{4} - \frac{5d}{2} + \frac{3}{4} \\ \frac{3d^2}{4} - \frac{5d}{2} + \frac{11}{4} \\ \frac{3d^2}{4} - 2d + \frac{1}{4} \\ \end{array}$	4	1
$\frac{3d^2}{2} - 2d + \frac{1}{2}$	$\begin{vmatrix} \frac{3d^2}{4} - \frac{7d}{2} + \frac{7}{4} \\ \frac{3d^2}{4} - \frac{5d}{2} + \frac{3}{4} \end{vmatrix}$	4	1
$\frac{3d^2}{3} - 2d + \frac{9}{9}$	$\left[ \frac{3d^2}{4} - \frac{5d}{2} + \frac{11}{4} \right]$	4	1
$\left  \frac{3d^2}{2} - d + \frac{3}{2} \right ^2$	$\left  \frac{3d^2}{4} - 2d + \frac{1}{4} \right $	4	1
$\frac{3d^2}{2} - 7d - 8$	$\frac{3d^2}{4} - 5d + 3$	4	0
$\frac{3d^2}{2} - 5d - 8$	$\frac{3d^2}{4} - 4d + 1$	4	0
$\frac{3d^2}{2} - 7d - 4$	$\frac{3d^2}{4} - 5d + 5$	4	0
$\frac{3d^2}{2} - 3d - 4$	$\frac{3d^2}{4} - 3d + 1$	4	0
$\frac{3d^2}{2} - 5d - 4$	$\frac{3d^2}{4} - 4d - 3$	4	0
$\frac{3d^2}{2} - 5d - 4$	$\frac{3d^2}{4} - 4d + 3$	4	0
$\frac{3d^2}{2} - 7d$	$\frac{3d^2}{4} - 5d + 1$	4	0
$\frac{3d^2}{2} - 3d$	$\frac{3d^2}{4} - 3d + 3$	4	0
$\frac{3d^2}{2} - 5d$	$\frac{3d^2}{4} - 4d - 1$	4	0
$\frac{3d^2}{2} - 3d + 4$	$\frac{3d^2}{4} - 3d + 5$	4	0
$\frac{3d^2}{2} - 6d - 6$	$\frac{3d^2}{4} - \frac{9d}{2} + 3$	4	0
$\frac{3d^2}{2} - 4d - 6$	$\frac{3d^2}{4} - \frac{7d}{2} - 5$	4	0
$\frac{3d^2}{2} - 4d - 6$	$\frac{3d^2}{4} - \frac{7d}{2} + 1$	4	0
$\frac{3d^2}{2} - 2d - 2$	$\frac{3d^2}{4} - \frac{5d}{2} + 1$	4	0
$\frac{3d^2}{2} - 6d - 2$	$\frac{3d^2}{4} - \frac{9d}{2} - 1$	4	0
$\frac{3d^2}{2} - 6d - 2$	$\frac{3d^2}{4} - \frac{9d}{2} + 5$	4	0
$\frac{3d^2}{2} - 4d - 2$	$\frac{3d^2}{4} - \frac{7d}{2} + 3$	4	0
$\frac{3\tilde{d}^2}{2} - 2d + 2$	$\frac{3d^2}{4} - \frac{5d}{2} + 3$	4	
$\begin{array}{c} \frac{3d^2}{2} - 7d - \frac{9}{2} \\ \frac{3d^2}{2} - 5d - \frac{5}{2} \\ \frac{3d^2}{2} - 3d + \frac{15}{2} \\ \frac{3d^2}{2} - 3d + \frac{15}{2} \\ \frac{3d^2}{2} - 6d - \frac{15}{2} \\ \frac{3d^2}{2} - 6d - \frac{7}{2} \\ \frac{3d^2}{2} - 6d - \frac{7}{2} \\ \frac{3d^2}{2} - 2d + \frac{9}{2} \\ \frac{3d^2}{2} - 2d + \frac{9}{2} \\ \frac{3d^2}{2} - 7d - 8 \\ \frac{3d^2}{2} - 7d - 4 \\ \frac{3d^2}{2} - 7d - 7d \\ \frac{3d^2}{2} - 7d - $	$\frac{3d^2}{4} - 2d + 1$	4	0
$\frac{3\bar{d}^2}{2} - 7d$	$\frac{3\bar{d}^2}{4} - 5d + 4$	4	2
$\frac{3\bar{d}^2}{2} - 3d$	$\frac{3\bar{d}^2}{4} - 3d$	4	2
$\frac{3\bar{d}^2}{2} - 5d$	$\frac{3\hat{d}^2}{4} - 4d + 2$	4	2
$\frac{3\bar{d}^2}{2} - 3d + 4$	$\frac{3\bar{d}^2}{4} - 3d + 2$	4	2
$\frac{3\bar{d}^2}{2} - 2d$	$\frac{3\bar{d}^2}{4} - \frac{5d}{2} - 1$	4	2
$\frac{3\bar{d}^2}{2} - 4d$	$\frac{3\bar{d}^2}{4} - \frac{\bar{7}d}{2} + 1$	4	2
$\frac{3d^2}{2} - 4d + 8$	$\frac{3d^2}{4} - \frac{\bar{7}d}{2} + 5$	4	2
$\frac{3\bar{d}^2}{2} - 3d - \frac{5}{2}$	$\frac{3d^2}{4} - 3d - \frac{11}{4}$	4	3
$\frac{3d^2}{2} - 5d - \frac{1}{2}$	$\frac{3d^2}{4} - 4d + \frac{1}{4}$	4	3
$\frac{3d^2}{2} - 7d + \frac{3}{2}$	$\frac{3d^2}{4} - 5d + \frac{13}{4}$	4	3
$\frac{3d^2}{2} - 5d + \frac{15}{2}$	$\frac{3d^2}{4} - 4d + \frac{17}{4}$	4	3
$\frac{3d^2}{2} - 4d - \frac{3}{2}$	$\begin{array}{c} \frac{3d^2}{4} - 5d + 3 \\ \frac{3d^2}{4} - 4d + 1 \\ \frac{3d^2}{4} - 5d + 5 \\ \frac{3d^2}{4} - 3d + 1 \\ \frac{3d^2}{4} - 4d - 3 \\ \frac{3d^2}{4} - 4d + 3 \\ \frac{3d^2}{4} - 3d + 3 \\ \frac{3d^2}{4} - 3d + 3 \\ \frac{3d^2}{4} - 3d + 5 \\ \frac{3d^2}{4} - 3d + 5 \\ \frac{3d^2}{4} - \frac{7d}{2} - 5 \\ \frac{3d^2}{4} - \frac{7d}{2} - 5 \\ \frac{3d^2}{4} - \frac{7d}{2} + 1 \\ \frac{3d^2}{4} - \frac{9d}{2} + 1 \\ \frac{3d^2}{4} - \frac{9d}{2} + 5 \\ \frac{3d^2}{4} - \frac{9d}{2} + 5 \\ \frac{3d^2}{4} - \frac{2d}{2} + 1 \\ \frac{3d^2}{4} - \frac{2d}{2} + 3 \\ \frac{3d^2}{4} - 2d + 1 \\ \frac{3d^2}{4} - 3d + 2 \\ \frac{3d^2}{4} - 3d + 2 \\ \frac{3d^2}{4} - 3d + 2 \\ \frac{3d^2}{4} - \frac{7d}{2} + 1 \\ \frac{3d^2}{4} - \frac{7d}{2} + 1 \\ \frac{3d^2}{4} - \frac{7d}{2} + 1 \\ \frac{3d^2}{4} - \frac{7d}{2} + 5 \\ \frac{3d^2}{4} - \frac{7d}{2} + 5 \\ \frac{3d^2}{4} - 3d - \frac{11}{4} \\ \frac{3d^2}{4} - 4d + \frac{1}{4} \\ \frac{3d^2}{4} - 4d + \frac{1}{4} \\ \frac{3d^2}{4} - 5d + \frac{13}{4} \\ \frac{3d^2}{4} - \frac{13}{4} - $	4	3

Table 2: New families of optimal chordal networks 2

N	s	p	$d \bmod p$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\frac{d^2}{2} - 3d + 1$	6	0
$\frac{3d^2}{2} - 6d - 6$	$\frac{d^2}{2} - d - 1$	6	0
$\frac{3d^2}{2} - 3d$	$\frac{d^2}{2} - 2d + 1$	6	0
$\frac{3d^2}{2} - 3d + 6$	$\frac{d^2}{2} - 2d + 3$	6	0
$\frac{3\tilde{d}^2}{2} - 6d - \frac{15}{2}$	$\frac{\tilde{d}^2}{2} - d - \frac{13}{2}$	6	1
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	$\frac{d^2}{2} - 3d + \frac{3}{2}$	6	1
$\frac{3\tilde{d}^2}{2} - 6d - \frac{3}{2}$	$\frac{d^2}{2} - d - \frac{9}{2}$	6	1
$\frac{3\bar{d}^2}{2} - 3d - \frac{9}{2}$	$\frac{\bar{d^2}}{2} - \frac{7}{2}$	6	1
$\frac{3\overline{d}^2}{2} - 3d + \frac{3}{2}$	$\frac{\bar{d}^2}{2} - 2d + \frac{1}{2}$	6	1
$\frac{3\overline{d}^2}{2} - 3d + \frac{3}{2}$	$\frac{\bar{d}^2}{2} - \frac{3}{2}$	6	1
$\frac{3\bar{d}^2}{2} - 3d + \frac{15}{2}$	$\frac{\bar{d}^2}{2} - 2d + \frac{5}{2}$	6	1
$\frac{3d^2}{2} - 3d + \frac{15}{2}$	$\frac{\bar{d}^2}{2} + \frac{1}{2}$	6	1
$\frac{3d^2}{2} - 6d - 6$	$\frac{\bar{d}^2}{2} - \bar{d} - 5$	6	2
$\frac{3\bar{d}^2}{2} - 3d$	$\frac{\bar{d}^2}{2} - 2d - 1$	6	2
$\frac{3\bar{d}^2}{2} - 3d$	$\frac{\bar{d}^2}{2} - 1$	6	2
$\frac{3d^2}{2} - 3d + 6$	$\frac{d^2}{2} + 1$	6	2
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	$\frac{d^2}{2} - 3d - \frac{1}{2}$	6	3
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	$\frac{d^2}{2} - d - \frac{5}{2}$	6	3
$\frac{3d^2}{2} - 3d + \frac{3}{2}$	$\frac{d^2}{2} + \frac{1}{2}$	6	3
$\frac{3d^2}{2} - 3d + \frac{15}{2}$	$\frac{d^2}{2} + \frac{5}{2}$	6	3
$\frac{3d^2}{2} - 6d - 6$	$\frac{d^2}{2} - 3d - 3$	6	4
$\frac{3d^2}{2} - 6d$	$\frac{d^2}{2} - 3d - 1$	6	4
$\frac{3d^2}{2} - 6d$	$\frac{d^2}{2} - d - 1$	6	4
$\frac{3d^2}{2} - 3d$	$\frac{d^2}{2} + 1$	6	4
$\frac{3d^2}{2} - 6d - \frac{15}{2}$	$\frac{d^2}{2} - 3d + \frac{3}{2}$	6	5
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	$\frac{d^2}{2} - 3d + \frac{7}{2}$	6	5
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	$\frac{d^2}{2} - d - \frac{1}{2}$	6	5
$\frac{3d^2}{2} - 3d - \frac{9}{2}$	$\frac{d^2}{2} - 2d + \frac{1}{2}$	6	5
$\frac{3d^2}{2} - 9d - \frac{9}{2}$	$\frac{d^2}{2} - 4d - \frac{3}{2}$	6	5
$\frac{3d^2}{2} - 9d - \frac{9}{2}$	$\frac{d^2}{2} - 4d + \frac{9}{2}$	6	5
$\frac{3d^2}{2} - 3d + \frac{3}{2}$	$\frac{d^2}{2} - 2d + \frac{5}{2}$	6	5 5 0
$\frac{3d^2}{2} - 3d + \frac{15}{2}$	$\frac{d^2}{2} - 2d + \frac{9}{2}$	6	5
$\frac{3d^2}{2} - 7d - 8$	$\frac{3d^2}{8} - d - 1$	8	0
$\frac{3d^2}{2} - 7d - 4$	$\frac{3d^2}{8} - \frac{5d}{2} + 1$	8	0
$\frac{3d^2}{2} - 6d - 2$	$\frac{3d^2}{8} - \frac{9d}{4} + 1$	6 6 8 8 8 8 8	0
$\frac{3d^2}{2} - 5d$	$\frac{3d^2}{8} - 2d + 1$	8	0
$\frac{3d^2}{2} - 7d$	$\frac{3d^2}{8} - d + 1$	8	0
$\frac{3d^2}{2} - 3d + 4$	$\begin{array}{c} \frac{d^2}{d^2} - 3d + 1 \\ \frac{d^2}{2} - d - 1 \\ \frac{d^2}{2} - 2d + 3 \\ \frac{d^2}{2} - 2d + \frac{3}{2} \\ \frac{d^2}{2} - d - \frac{13}{2} \\ \frac{d^2}{2} - d - \frac{9}{2} \\ \frac{d^2}{2} - 3d + \frac{3}{2} \\ \frac{d^2}{2} - 2d + \frac{1}{2} \\ \frac{d^2}{2} - 2d + \frac{1}{2} \\ \frac{d^2}{2} - 2d + \frac{1}{2} \\ \frac{d^2}{2} - 2d - 1 \\ \frac{d^2}{2} - 2d - 1 \\ \frac{d^2}{2} - 1 \\ \frac{d^2}{2} - 2d - 1 \\ \frac{d^2}{2} - 1 \\ \frac{d^2}{2} - 2d - 1 \\ \frac{d^2}{2} - $		0
$\begin{array}{c} \frac{3d^2}{2} - 3d - \frac{9}{2} \\ \frac{3d^2}{2} - 9d - \frac{9}{2} \\ \frac{3d^2}{2} - 9d - \frac{9}{2} \\ \frac{3d^2}{2} - 3d + \frac{3}{2} \\ \frac{3d^2}{2} - 3d + \frac{15}{2} \\ \frac{3d^2}{2} - 7d - 8 \\ \frac{3d^2}{2} - 7d - 4 \\ \frac{3d^2}{2} - 6d - 2 \\ \frac{3d^2}{2} - 5d \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 3d + 4 \\ \frac{3d^2}{2} - 3d + \frac{7}{2} \\ \end{array}$	$\frac{3d^2}{8} - \frac{3d}{2} + \frac{1}{8}$	8	1

Table 3: New families of optimal chordal networks 3

N	s	p	$d \bmod p$
$\begin{array}{ c c c c }\hline \frac{3d^2}{2} - 8d \\ \frac{3d^2}{2} - 4d \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 5d \\ \frac{3d^2}{2} - 4d + 8 \\ \frac{3d^2}{2} - 2d \\ \frac{3d^2}{2} - 3d + 4 \\ \frac{3d^2}{2} - 6d - \frac{7}{2} \\ \frac{3d^2}{2} - 4d + \frac{13}{2} \\ \frac{3d^2}{2} - 4d + \frac{13}{2} \\ \frac{3d^2}{2} - 4d + \frac{13}{2} \\ \frac{3d^2}{2} - 3d + \frac{3}{2} \\ \frac{3d^2}{2} - 3d + \frac{3}{2} \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 3d + \frac{7}{2} \\ \frac{3d^2}{2} - 3d + 4 \\ \frac{3d^2}{2} - 3d + 4 \\ \frac{3d^2}{2} - 3d + 8 \\ \frac{3d^2}{2} - 6d - 8 \\ \frac{3d^2}{2} - 7d - 4d \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 4d \\ \frac{3d^2}{2} - 5d \\ \frac{3d^2}{2} - 4d \\ \frac{3d^2}{2} - 5d \\ \frac{3d^2}{2} - 4d \\ \frac{3d^2}{2} - 3d - 4 \\ \end{array}$	$\frac{3d^2}{8} - \frac{11d}{4} + 1$	8	2
$\frac{3\tilde{d}^2}{2} - 4d$	$\frac{3d^2}{8} - \frac{7d}{4} - 1$	8	2
$\frac{3\tilde{d}^2}{2} - 7d$	$\frac{3d^2}{8} - \frac{5d}{2} + \frac{1}{2}$	8	2
$\frac{3\tilde{d}^2}{2} - 5d$	$\frac{3d^2}{8} - 2d - \frac{1}{2}$	8	2
$\frac{3d^2}{2} - 4d$	$\frac{3d^2}{8} - \frac{d}{4} - 2$	8	2
$\frac{3d^2}{2} - 4d + 8$	$\frac{3d^2}{8} - \frac{d}{4}$	8	2
$\frac{3d^2}{2} - 2d$	$\frac{3d^2}{8} + \frac{d}{4} - 1$	8	2
$\frac{3\tilde{d}^2}{2} - 3d + 4$	$\frac{3d^2}{8} - \frac{1}{2}$	8	2
$\frac{3\tilde{d}^2}{2} - 6d - \frac{7}{2}$	$\frac{3d^2}{8} - \frac{9d}{4} - \frac{13}{8}$	8	3
$\frac{3\tilde{d}^2}{2} - 4d - \frac{3}{2}$	$\frac{3d^2}{8} - \frac{d}{4} - \frac{13}{8}$	8	3
$\frac{3d^2}{2} - 4d + \frac{13}{2}$	$\frac{3d^2}{8} - \frac{d}{4} + \frac{3}{8}$	8	3
$\frac{3\tilde{d}^2}{2} - 3d + \frac{3}{2}$	$\frac{3d^2}{8} - \frac{3}{8}$	8	3
$\frac{3\tilde{d}^2}{2} - 2d + \frac{9}{2}$	$\frac{3d^2}{8} + \frac{d}{4} + \frac{7}{8}$	8	3
$\frac{3\tilde{d}^2}{2} - 6d - 2$	$\frac{3d^2}{8} - \frac{3d}{4} - 2$	8	4
$\frac{3\bar{d}^2}{2} - 7d$	$\frac{3d^2}{8} - \frac{5d}{2} - 1$	8	4
$\frac{3\bar{d}^2}{2} - 5d$	$\frac{3d^2}{8} - \frac{d}{2} - 1$	8	4
$\frac{3\bar{d}^2}{2} - 3d + 4$	$\frac{3d^2}{8} + 1$	8	4
$\frac{3\bar{d}^2}{2} - 3d + \frac{7}{2}$	$\frac{3d^2}{8} + \frac{13}{8}$	8	5
$\frac{3d^2}{2} - 6d - 8$	$\frac{3d^2}{8} - \frac{9d}{4} + 1$	8	6
$\frac{3\bar{d}^2}{2} - 4d - 8$	$\frac{3d^2}{8} - \frac{7d}{4}$	8	6
$\frac{3\bar{d}^2}{2} - 5d - 4$	$\frac{3d^2}{8} - 2d + \frac{3}{2}$	8	6
$\frac{3\bar{d}^2}{2} - 10d$	$\frac{3d^2}{8} - \frac{13d}{4} - 1$	8	6
$\frac{3\bar{d}^2}{2} - 10d$	$\frac{3d^2}{8} - \frac{7d}{4} - 2$	8	6
$\frac{3\tilde{d}^2}{2} - 8d$	$\frac{3d^2}{8} - \frac{5d}{4} - 1$	8	6
$\frac{3\bar{d}^2}{2} - 7d$	$\frac{3d^2}{8} - d - \frac{1}{2}$	8	6
$\frac{3\bar{d}^2}{2} - 4d$	$\frac{3d^2}{8} - \frac{7d}{4} + 2$	8	6
$\frac{3\bar{d}^2}{2} - 5d$	$\frac{3d^2}{8} - \frac{d}{2} + \frac{1}{2}$	8	6
$\frac{3\bar{d}^2}{2} - 4d$	$\frac{3d^2}{8} - \frac{d}{4} + 1$	8	6
$\frac{3d^2}{2} - 3d - 4$	$\frac{3d^2}{8} - \frac{3d}{2} + \frac{1}{2}$	8	6
$\frac{3\bar{d}^2}{2} - 2d$	$\frac{3d^2}{8} - \frac{5d}{4} + 1$		6
$\frac{3\bar{d}^2}{2} - 6d - \frac{15}{2}$	$\frac{3d^2}{8} - \frac{9d}{4} + \frac{3}{8}$	8	7
$\frac{3\bar{d}^2}{2} - 5d - \frac{9}{2}$	$\frac{3d^2}{8} - 2d + \frac{5}{8}$	8 8 8 8 8 8	7
$\frac{3\bar{d}^2}{2} - 5d - \frac{9}{2}$	$\frac{3d^2}{8} - \frac{d}{2} + \frac{1}{8}$	8	7
$\frac{3d^2}{2} - 6d - \frac{7}{2}$	$\frac{3d^2}{8} - \frac{3d}{4} - \frac{1}{8}$	8	7
$\frac{3\bar{d}^2}{2} - 4d - \frac{3}{2}$	$\frac{3d^2}{8} - \frac{7d}{4} + \frac{7}{8}$	8	7
$\frac{3\tilde{d}^2}{2} - 3d + \frac{3}{2}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	8	6 7 7 7 7 7
$\begin{vmatrix} \frac{3d^2}{2} - 3d - 4 \\ \frac{3d^2}{2} - 2d \\ \frac{3d^2}{2} - 6d - \frac{15}{2} \\ \frac{3d^2}{2} - 5d - \frac{9}{2} \\ \frac{3d^2}{2} - 5d - \frac{9}{2} \\ \frac{3d^2}{2} - 6d - \frac{7}{2} \\ \frac{3d^2}{2} - 4d - \frac{3}{2} \\ \frac{3d^2}{2} - 3d + \frac{3}{2} \\ \frac{3d^2}{2} - 2d + \frac{9}{2} \end{vmatrix}$	$\frac{3d^2}{8} - \frac{5d}{4} + \frac{11}{8}$	8	7

Table 4: New families of optimal chordal networks 4

N	s	p	$d \bmod p$
$\frac{3d^2}{3d^2} - 9d + \frac{7}{2}$	3d - 18	2	1
$\begin{bmatrix} \frac{2}{3d^2} & 9d + \frac{2}{7} \\ \frac{3d^2}{3} & 0d + \frac{7}{7} \end{bmatrix}$	3d	$\begin{vmatrix} 2 \\ 2 \end{vmatrix}$	1
$\begin{bmatrix} 2 & -3d + 2 \\ 3d^2 & 2d & 15 \end{bmatrix}$	3d - 16	$\begin{vmatrix} 2 \\ 2 \end{vmatrix}$	1
$\frac{\frac{1}{2}}{3d^2} - 8a - \frac{1}{2}$			1
$\frac{1}{3d^2} - 8a - \frac{1}{2}$	3d+2	2	
$\frac{3d^2}{2} - 8a - \frac{1}{2}$	3d - 16	2	1
$\frac{3a^2}{2} - 8a - \frac{1}{2}$	3d+2	2	1
$\frac{3a}{2} - 8a + \frac{1}{2}$	3d - 16	2	1
$\frac{3a}{2} - 8d + \frac{3}{2}$	3d - 16	2	1
$\frac{3a}{2} - 8d + \frac{3}{2}$	3d - 10	2	1
$\left  \frac{3d}{2} - 8d + \frac{3}{2} \right $	3d-4	2	1
$\frac{3d}{2} - 7d - \frac{13}{2}$	3d - 14	2	1
$\frac{3d}{2} - 7d - \frac{3}{2}$	3d - 14	2	1
$\frac{3a}{2} - 7d + \frac{3}{2}$	3d - 14	2	1
$\frac{3a}{2} - 7d + \frac{3}{2}$	3d-2	2	1
$\frac{3a^2}{2} - 6d - \frac{11}{2}$	3d - 12	2	1
$\frac{3a^2}{2} - 6d - \frac{7}{2}$	3d - 12	2	1
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	3d - 12	2	1
$\frac{3d^2}{2} - 6d - \frac{3}{2}$	3d	2	1
$\frac{3d^2}{2} - 6d + \frac{5}{2}$	3d - 12	2	1
$\frac{3d^2}{2} - 6d + \frac{5}{2}$	3d-6	2	1
$\frac{3d^2}{2} - 6d + \frac{5}{2}$	3d	2	1
$\frac{3d^2}{2} - 5d - \frac{9}{2}$	3d - 10	2	1
$\frac{3d^2}{2} - 5d - \frac{9}{2}$	3d + 2	2	1
$\frac{3d^2}{2} - 5d - \frac{5}{2}$	3d - 10	2	1
$\frac{3d^2}{2} - 5d - \frac{5}{2}$	3d + 2	2	1
$\frac{3d^2}{2} - 5d - \frac{1}{2}$	3d - 10	2	1
$\frac{3\bar{d}^2}{2} - 5d + \frac{\bar{1}5}{2}$	3d-4	2	1
$\frac{3\bar{d}^2}{2} - 4d - \frac{15}{2}$	3d + 4		1
$\frac{3\bar{d}^2}{2} - 4d - \frac{7}{2}$	3d - 8	$\begin{vmatrix} 2 \\ 2 \end{vmatrix}$	1
$\frac{3d^2}{2} - 4d - \frac{3}{2}$	3d - 8	2	1
$\frac{3d^2}{2} - 4d + \frac{1}{2}$	3d - 8		1
$\frac{3d^2}{2} - 4d + \frac{1}{2}$	3d-2	2	1
$\frac{3d^2}{2} - 4d + \frac{9}{2}$	3d - 8	2	1
$\frac{3d^2}{2} - 4d + \frac{5}{2}$	3d - 2	$\begin{bmatrix} 2 \\ 2 \\ 2 \\ 2 \end{bmatrix}$	1
$\frac{3d^2}{2} - 3d - \frac{5}{2}$	3d - 6	2	1
$\frac{3d^2}{2} - 3d - \frac{1}{2}$	3d - 6	2	1
$\frac{3d^2}{2} - 3d - \frac{1}{2}$	3d	2	1
$\frac{3d^2}{2} - 3d + \frac{3}{2}$	3d - 6	2	1
$\frac{3d^2}{2} - 3d + \frac{3}{2}$	3d	2	1
$\frac{3d^2}{2} - 3d + \frac{2}{3}$	3d - 6	2	1
$\frac{3d^2}{2} - 2d - \frac{3}{2}$	3d-4	2	1
$\frac{3d^2}{2} - 2d - \frac{3}{2}$	3d + 2	2 2 2 2 2 2 2 2 2 2 2	1
$\frac{3d^2}{2} - 2d + \frac{1}{2}$	3d-4	2	1
$\frac{3d^2}{2} - 2d + \frac{5}{2}$	3d-4	2	1
$\frac{3d^2}{2} - d - \frac{1}{2}$	3d-2	$\frac{1}{2}$	1
$\begin{array}{c} \frac{3d^2}{3d^2} - 9d + \frac{7}{2} \\ \frac{3d^2}{2} - 9d + \frac{7}{2} \\ \frac{3d^2}{2} - 8d - \frac{15}{2} \\ \frac{3d^2}{2} - 8d - \frac{7}{2} \\ \frac{3d^2}{2} - 8d - \frac{7}{2} \\ \frac{3d^2}{2} - 8d + \frac{9}{2} \\ \frac{3d^2}{2} - 7d - \frac{13}{2} \\ \frac{3d^2}{2} - 7d - \frac{9}{2} \\ \frac{3d^2}{2} - 7d + \frac{3}{2} \\ \frac{3d^2}{2} - 7d + \frac{3}{2} \\ \frac{3d^2}{2} - 7d + \frac{3}{2} \\ \frac{3d^2}{2} - 6d - \frac{3}{2} \\ \frac{3d^2}{2} - 6d - \frac{3}{2} \\ \frac{3d^2}{2} - 6d + \frac{5}{2} \\ \frac{3d^2}{2} - 5d - \frac{9}{2} \\ \frac{3d^2}{2} - 5d - \frac{9}{2} \\ \frac{3d^2}{2} - 5d - \frac{1}{2} \\ \frac{3d^2}{2} - 5d - \frac{1}{2} \\ \frac{3d^2}{2} - 4d + \frac{1}{2} \\ \frac{3d^2}{2} - 3d - \frac{1}{2} \\ \frac{3d^2}{2} - 2d - \frac{3}{2} \\ \frac{3d^2}{2} - 2d - $	3d-2	$\frac{1}{2}$	1
$\frac{3d^2}{2} + \frac{1}{2}$	3d	$\begin{vmatrix} 2 \\ 2 \end{vmatrix}$	1
2 ' 2			*

Table 5: New families of optimal chordal networks 5

N	s	p	$d \bmod p$
$\frac{3d^2}{2} - 8d$	3d - 13	2	0
$\frac{3d^2}{2} - 8d$	3d - 1	2	0
$\frac{3d^2}{2} - 7d - 4$	3d + 1	2	0
$\frac{3d^2}{2} - 7d$	3d - 11	2	0
$\frac{3d^2}{2} - 7d$	3d + 1	2	0
$\frac{3d^2}{2} - 6d - 8$	3d + 3	2	0
$\frac{3d^2}{2} - 6d - 6$	3d + 3	2	0
$\frac{3\bar{d}^2}{2} - 5d$	3d - 7	2	0
$\frac{3d^2}{2} - 5d$	3d - 1	2	0
$\frac{3d^2}{2} - 4d - 2$	3d + 1	2	0
$\frac{3d^2}{2} - 4d$	3d - 5	2	0
$\frac{3d^2}{2} - 4d$	3d + 1	2	0
$\frac{3d^2}{2} - 4d + 6$	3d - 5	2	0
$\frac{3d^2}{2} - 3d - 4$	3d + 3	2	0
$\frac{3d^2}{2} - 3d$	3d - 3	2	0
$\frac{3d^2}{2} - 3d + 4$	3d - 3	2	0
$\frac{3\bar{d}^2}{2} - 2d$	3d - 1	2	0
$\frac{3\bar{d}^2}{2} - 2d + 2$	3d - 1	2	0
$\begin{array}{c} \frac{3d^2}{2} - 8d \\ \frac{3d^2}{2} - 8d \\ \frac{3d^2}{2} - 7d - 4 \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 7d \\ \frac{3d^2}{2} - 6d - 8 \\ \frac{3d^2}{2} - 6d - 6 \\ \frac{3d^2}{2} - 5d \\ \frac{3d^2}{2} - 5d \\ \frac{3d^2}{2} - 4d - 2 \\ \frac{3d^2}{2} - 4d - 2 \\ \frac{3d^2}{2} - 4d + 6 \\ \frac{3d^2}{2} - 3d - 4 \\ \frac{3d^2}{2} - 3d - 4 \\ \frac{3d^2}{2} - 3d \\ \frac{3d^2}{2} - 2d \\ \frac{3d^2}{2} - 2d \\ \frac{3d^2}{2} - 2d + 2 \\ \frac{3d^2}{2} - d \\ \end{array}$	3d + 1	2	0

Table 6: New families of optimal chordal networks 6

N	s	p	$d \bmod p$
$\frac{3d^2}{2} - 9d + \frac{7}{2}$	3d - 18	2	1
$\frac{3d^2}{2} - 9d + \frac{7}{2}$	3d	2	1
$\frac{3\tilde{d}^2}{2} - 8d - \frac{15}{2}$	3d - 16	2	1
$\frac{3d^2}{2} - 8d - \frac{15}{2}$	3d + 2	2	1
$\frac{3d^2}{2} - 7d - \frac{9}{2}$	$\frac{3d^2}{4} - 5d - \frac{11}{4}$	4	1
$\frac{3d^2}{2} - 7d - \frac{9}{2}$	$\frac{3d^2}{4} - 5d + \frac{13}{4}$	4	1
$\frac{3d^2}{2} - 5d - \frac{5}{2}$	$\frac{3d^2}{4} - 4d + \frac{9}{4}$	4	1
$\frac{3d^2}{2} - 3d - \frac{1}{2}$	$\frac{3d^2}{4} - 3d + \frac{5}{4}$	4	1
$\frac{3d^2}{2} - 6d - 6$	$\frac{d^2}{2} - 3d + 1$	6	0
$\frac{3d^2}{2} - 6d - 6$	$\frac{\bar{d}^2}{2} - d - 1$	6	0
$\frac{3d^2}{2} - 3d$	$\frac{\bar{d}^2}{2} - 2d + 1$	6	0
$\frac{3d^2}{2} - 3d + 6$	$\frac{\bar{d}^2}{2} - 2d + 3$	6	0
$\frac{3\tilde{d}^2}{2} - 6d - \frac{15}{2}$	$\frac{d^2}{2} - d - \frac{13}{2}$	6	1
$\frac{3d^2}{2} - 8d$	$\frac{3d^2}{8} - \frac{11d}{4} + 1$	8	2
$\frac{3\tilde{d}^2}{2} - 4d$	$\frac{3d^2}{8} - \frac{7d}{4} - 1$	8	2
$\frac{3d^2}{2} - 7d$	$\frac{3d^2}{8} - \frac{5d}{2} + \frac{1}{2}$	8	2
$\frac{3\bar{d}^2}{2} - 5d$	$\frac{3d^2}{8} - 2d - \frac{1}{2}$	8	2
$\begin{array}{ c c c }\hline \frac{3d^2}{2} - 9d + \frac{7}{2}\\ \frac{3d^2}{2} - 9d + \frac{7}{2}\\ \frac{3d^2}{2} - 8d - \frac{15}{2}\\ \frac{3d^2}{2} - 7d - \frac{9}{2}\\ \frac{3d^2}{2} - 7d - \frac{9}{2}\\ \frac{3d^2}{2} - 5d - \frac{5}{2}\\ \frac{3d^2}{2} - 3d - \frac{1}{2}\\ \frac{3d^2}{2} - 6d - 6\\ \frac{3d^2}{2} - 3d \\ \frac{3d^2}{2} - 3d + 6\\ \frac{3d^2}{2} - 3d + 6\\ \frac{3d^2}{2} - 8d \\ \frac{3d^2}{2} - 8d\\ \frac{3d^2}{2} - 8d\\ \frac{3d^2}{2} - 7d\\ \frac{3d^2}{2} - 7d\\ \frac{3d^2}{2} - 5d\\ \frac{3d^2}{2} - 5d\\ \frac{3d^2}{2} - 7d\\ \frac{3d^2}{2} - 5d\\ \frac{3d^2}{2} - 4d\\ \end{array}$	$\begin{array}{c} 3d+2 \\ \frac{3d^2}{4} - 5d - \frac{11}{4} \\ \frac{3d^2}{4} - 5d + \frac{13}{4} \\ \frac{3d^2}{4} - 4d + \frac{9}{4} \\ \frac{3d^2}{4} - 3d + \frac{5}{4} \\ \frac{d^2}{2} - 3d + 1 \\ \frac{d^2}{2} - 2d + 1 \\ \frac{d^2}{2} - 2d + 3 \\ \frac{d^2}{2} - 2d + \frac{13}{2} \\ \frac{3d^2}{8} - \frac{11d}{4} + 1 \\ \frac{3d^2}{8} - \frac{7d}{4} - 1 \\ \frac{3d^2}{8} - \frac{5d}{2} + \frac{1}{2} \\ \frac{3d^2}{8} - 2d - \frac{1}{2} \\ \frac{3d^2}{8} - \frac{d}{4} - 2 \end{array}$	8	2