

$\mathcal{D}_n$ -CLASSES OF CANONICAL MATRICES OF  $G_6$  WITH CARDINALITY  
 $(q-1)^6$

$$A_1 = I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{3,5} + E_{5,6}$$

$\mathcal{D}_n$ -CLASSES OF CANONICAL MATRICES OF  $G_7$  WITH CARDINALITY  
 $(q-1)^6$

$A_1 = I + E_{1,2} + E_{2,3} + E_{3,4} + E_{4,5} + E_{5,6} + E_{6,7}$	$A_{26} = I + E_{1,4} + E_{2,3} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_2 = I + E_{1,2} + E_{1,3} + E_{3,4} + E_{4,5} + E_{5,6} + E_{6,7}$	$A_{27} = I + E_{1,2} + E_{2,4} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_3 = I + E_{1,2} + E_{1,4} + E_{2,3} + E_{4,5} + E_{5,6} + E_{6,7}$	$A_{28} = I + E_{1,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_4 = I + E_{1,2} + E_{2,3} + E_{2,4} + E_{4,5} + E_{5,6} + E_{6,7}$	$A_{29} = I + E_{1,2} + E_{1,3} + E_{1,4} + E_{3,6} + E_{4,5} + E_{6,7}$
$A_5 = I + E_{1,4} + E_{2,3} + E_{2,4} + E_{4,5} + E_{5,6} + E_{6,7}$	$A_{30} = I + E_{1,2} + E_{1,4} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_6 = I + E_{1,2} + E_{2,3} + E_{2,5} + E_{3,4} + E_{5,6} + E_{6,7}$	$A_{31} = I + E_{1,2} + E_{1,3} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_7 = I + E_{1,2} + E_{2,3} + E_{3,4} + E_{3,5} + E_{5,6} + E_{6,7}$	$A_{32} = I + E_{1,2} + E_{1,4} + E_{2,3} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_8 = I + E_{1,5} + E_{2,3} + E_{2,5} + E_{3,4} + E_{5,6} + E_{6,7}$	$A_{33} = I + E_{1,2} + E_{2,3} + E_{2,4} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_9 = I + E_{1,5} + E_{2,3} + E_{3,4} + E_{3,5} + E_{5,6} + E_{6,7}$	$A_{34} = I + E_{1,4} + E_{1,6} + E_{2,3} + E_{2,4} + E_{4,5} + E_{6,7}$
$A_{10} = I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{5,6} + E_{6,7}$	$A_{35} = I + E_{1,4} + E_{2,3} + E_{2,4} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_{11} = I + E_{1,2} + E_{2,5} + E_{3,4} + E_{3,5} + E_{5,6} + E_{6,7}$	$A_{36} = I + E_{1,6} + E_{2,3} + E_{2,4} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_{12} = I + E_{1,3} + E_{2,5} + E_{3,4} + E_{3,5} + E_{5,6} + E_{6,7}$	$A_{37} = I + E_{1,3} + E_{1,4} + E_{2,6} + E_{4,5} + E_{4,6} + E_{6,7}$
$A_{13} = I + E_{1,2} + E_{1,3} + E_{1,5} + E_{3,4} + E_{5,6} + E_{6,7}$	$A_{38} = I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{4,6} + E_{6,7}$
$A_{14} = I + E_{1,2} + E_{1,3} + E_{3,4} + E_{3,5} + E_{5,6} + E_{6,7}$	$A_{39} = I + E_{1,2} + E_{2,3} + E_{2,4} + E_{3,5} + E_{4,6} + E_{6,7}$
$A_{15} = I + E_{1,2} + E_{1,3} + E_{2,4} + E_{3,5} + E_{5,6} + E_{6,7}$	$A_{40} = I + E_{1,4} + E_{2,3} + E_{2,4} + E_{3,5} + E_{4,6} + E_{6,7}$
$A_{16} = I + E_{1,4} + E_{1,5} + E_{2,3} + E_{2,5} + E_{5,6} + E_{6,7}$	$A_{41} = I + E_{1,2} + E_{1,3} + E_{1,4} + E_{3,5} + E_{4,6} + E_{6,7}$
$A_{17} = I + E_{1,2} + E_{2,3} + E_{3,4} + E_{4,5} + E_{4,6} + E_{6,7}$	$A_{42} = I + E_{1,5} + E_{1,6} + E_{2,3} + E_{3,4} + E_{3,6} + E_{6,7}$
$A_{18} = I + E_{1,6} + E_{2,3} + E_{3,4} + E_{4,5} + E_{4,6} + E_{6,7}$	$A_{43} = I + E_{1,2} + E_{1,3} + E_{2,5} + E_{2,6} + E_{3,4} + E_{6,7}$
$A_{19} = I + E_{1,2} + E_{1,3} + E_{2,6} + E_{3,4} + E_{4,5} + E_{6,7}$	$A_{44} = I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{3,6} + E_{6,7}$
$A_{20} = I + E_{1,2} + E_{2,6} + E_{3,4} + E_{4,5} + E_{4,6} + E_{6,7}$	$A_{45} = I + E_{1,2} + E_{2,5} + E_{2,6} + E_{3,4} + E_{3,6} + E_{6,7}$
$A_{21} = I + E_{1,3} + E_{2,6} + E_{3,4} + E_{4,5} + E_{4,6} + E_{6,7}$	$A_{46} = I + E_{1,3} + E_{2,5} + E_{2,6} + E_{3,4} + E_{3,6} + E_{6,7}$
$A_{22} = I + E_{1,2} + E_{1,3} + E_{3,4} + E_{4,5} + E_{4,6} + E_{6,7}$	$A_{47} = I + E_{1,6} + E_{2,5} + E_{2,6} + E_{3,4} + E_{3,6} + E_{6,7}$
$A_{23} = I + E_{1,2} + E_{2,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{6,7}$	$A_{48} = I + E_{1,2} + E_{1,3} + E_{2,4} + E_{3,5} + E_{3,6} + E_{6,7}$
$A_{24} = I + E_{1,2} + E_{2,3} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7}$	$A_{49} = I + E_{1,2} + E_{1,3} + E_{2,7} + E_{3,4} + E_{4,5} + E_{5,6}$
$A_{25} = I + E_{1,4} + E_{2,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{6,7}$	$A_{50} = I + E_{1,2} + E_{1,4} + E_{2,3} + E_{3,7} + E_{4,5} + E_{5,6}$

$$\begin{aligned}
A_{51} &= I + E_{1,2} + E_{2,3} + E_{2,4} + E_{3,7} + E_{4,5} + E_{5,6} & A_{64} &= I + E_{1,4} + E_{1,5} + E_{2,3} + E_{2,4} + E_{4,7} + E_{5,6} \\
A_{52} &= I + E_{1,4} + E_{2,3} + E_{2,4} + E_{3,7} + E_{4,5} + E_{5,6} & A_{65} &= I + E_{1,4} + E_{2,3} + E_{2,4} + E_{2,5} + E_{4,7} + E_{5,6} \\
A_{53} &= I + E_{1,2} + E_{1,3} + E_{1,4} + E_{3,7} + E_{4,5} + E_{5,6} & A_{66} &= I + E_{1,5} + E_{2,3} + E_{2,4} + E_{2,5} + E_{4,7} + E_{5,6} \\
A_{54} &= I + E_{1,2} + E_{2,3} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{67} &= I + E_{1,3} + E_{1,5} + E_{2,4} + E_{2,5} + E_{4,7} + E_{5,6} \\
A_{55} &= I + E_{1,5} + E_{2,3} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{68} &= I + E_{1,2} + E_{1,3} + E_{2,7} + E_{3,4} + E_{3,5} + E_{5,6} \\
A_{56} &= I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{4,7} + E_{5,6} & A_{69} &= I + E_{1,4} + E_{1,5} + E_{2,3} + E_{2,5} + E_{3,7} + E_{5,6} \\
A_{57} &= I + E_{1,2} + E_{2,5} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{70} &= I + E_{1,2} + E_{1,3} + E_{2,6} + E_{3,4} + E_{4,5} + E_{5,7} \\
A_{58} &= I + E_{1,3} + E_{2,5} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{71} &= I + E_{1,2} + E_{2,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{5,7} \\
A_{59} &= I + E_{1,2} + E_{1,5} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{72} &= I + E_{1,4} + E_{2,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{5,7} \\
A_{60} &= I + E_{1,2} + E_{1,3} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{73} &= I + E_{1,2} + E_{1,3} + E_{1,4} + E_{3,6} + E_{4,5} + E_{5,7} \\
A_{61} &= I + E_{1,2} + E_{1,3} + E_{2,4} + E_{3,5} + E_{4,7} + E_{5,6} & A_{74} &= I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{4,6} + E_{5,7} \\
A_{62} &= I + E_{1,2} + E_{2,3} + E_{2,4} + E_{2,5} + E_{4,7} + E_{5,6} & A_{75} &= I + E_{1,4} + E_{1,5} + E_{2,3} + E_{2,4} + E_{4,6} + E_{5,7} \\
A_{63} &= I + E_{1,4} + E_{1,5} + E_{2,3} + E_{2,5} + E_{4,7} + E_{5,6} & A_{76} &= I + E_{1,2} + E_{1,3} + E_{2,6} + E_{3,4} + E_{3,5} + E_{5,7} \\
& & A_{77} &= I + E_{1,2} + E_{1,3} + E_{1,4} + E_{2,7} + E_{3,6} + E_{4,5}
\end{aligned}$$

$\mathcal{D}_n$ -CLASSES OF CANONICAL MATRICES OF  $G_7$  WITH CARDINALITY  
 $(q - 1)^7$

$$\begin{aligned}
A_1 &= I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{3,5} + E_{5,6} + E_{6,7} \\
A_2 &= I + E_{1,2} + E_{1,3} + E_{2,6} + E_{3,4} + E_{4,5} + E_{4,6} + E_{6,7} \\
A_3 &= I + E_{1,2} + E_{2,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7} \\
A_4 &= I + E_{1,4} + E_{2,3} + E_{2,4} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7} \\
A_5 &= I + E_{1,2} + E_{1,3} + E_{1,4} + E_{3,6} + E_{4,5} + E_{4,6} + E_{6,7} \\
A_7 &= I + E_{1,2} + E_{1,3} + E_{2,5} + E_{3,4} + E_{3,5} + E_{4,7} + E_{5,6} \\
A_8 &= I + E_{1,4} + E_{1,5} + E_{2,3} + E_{2,4} + E_{2,5} + E_{4,7} + E_{5,6}
\end{aligned}$$

$\mathcal{D}_n$ -CLASSES OF CANONICAL MATRICES OF  $G_8$  WITH CARDINALITY  
( $q - 1$ )<sup>7</sup>

$$\begin{aligned}
 A_1 &= I + E_{12} + E_{23} + E_{34} + E_{45} + E_{56} + E_{67} + E_{78} & A_{35} &= I + E_{12} + E_{24} + E_{36} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_2 &= I + E_{12} + E_{13} + E_{34} + E_{45} + E_{56} + E_{67} + E_{78} & A_{36} &= I + E_{13} + E_{24} + E_{36} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_3 &= I + E_{12} + E_{14} + E_{23} + E_{45} + E_{56} + E_{67} + E_{78} & A_{37} &= I + E_{12} + E_{13} + E_{14} + E_{36} + E_{45} + E_{67} + E_{78} \\
 A_4 &= I + E_{12} + E_{23} + E_{24} + E_{45} + E_{56} + E_{67} + E_{78} & A_{38} &= I + E_{12} + E_{14} + E_{36} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_5 &= I + E_{14} + E_{23} + E_{24} + E_{45} + E_{56} + E_{67} + E_{78} & A_{39} &= I + E_{12} + E_{13} + E_{36} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_6 &= I + E_{12} + E_{15} + E_{23} + E_{34} + E_{56} + E_{67} + E_{78} & A_{40} &= I + E_{12} + E_{23} + E_{24} + E_{26} + E_{45} + E_{67} + E_{78} \\
 A_7 &= I + E_{12} + E_{23} + E_{25} + E_{34} + E_{56} + E_{67} + E_{78} & A_{41} &= I + E_{12} + E_{14} + E_{23} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_8 &= I + E_{12} + E_{23} + E_{34} + E_{35} + E_{56} + E_{67} + E_{78} & A_{42} &= I + E_{12} + E_{23} + E_{24} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_9 &= I + E_{15} + E_{23} + E_{25} + E_{34} + E_{56} + E_{67} + E_{78} & A_{43} &= I + E_{14} + E_{16} + E_{23} + E_{26} + E_{45} + E_{67} + E_{78} \\
 A_{10} &= I + E_{15} + E_{23} + E_{34} + E_{35} + E_{56} + E_{67} + E_{78} & A_{44} &= I + E_{14} + E_{16} + E_{23} + E_{24} + E_{45} + E_{67} + E_{78} \\
 A_{11} &= I + E_{12} + E_{13} + E_{25} + E_{34} + E_{56} + E_{67} + E_{78} & A_{45} &= I + E_{14} + E_{23} + E_{24} + E_{26} + E_{45} + E_{67} + E_{78} \\
 A_{12} &= I + E_{12} + E_{25} + E_{34} + E_{35} + E_{56} + E_{67} + E_{78} & A_{46} &= I + E_{14} + E_{23} + E_{24} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_{13} &= I + E_{13} + E_{25} + E_{34} + E_{35} + E_{56} + E_{67} + E_{78} & A_{47} &= I + E_{16} + E_{23} + E_{24} + E_{26} + E_{45} + E_{67} + E_{78} \\
 A_{14} &= I + E_{12} + E_{13} + E_{15} + E_{34} + E_{56} + E_{67} + E_{78} & A_{48} &= I + E_{16} + E_{23} + E_{24} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_{15} &= I + E_{12} + E_{13} + E_{34} + E_{35} + E_{56} + E_{67} + E_{78} & A_{49} &= I + E_{13} + E_{16} + E_{24} + E_{26} + E_{45} + E_{67} + E_{78} \\
 A_{16} &= I + E_{12} + E_{13} + E_{24} + E_{35} + E_{56} + E_{67} + E_{78} & A_{50} &= I + E_{13} + E_{14} + E_{26} + E_{45} + E_{46} + E_{67} + E_{78} \\
 A_{17} &= I + E_{14} + E_{15} + E_{23} + E_{25} + E_{56} + E_{67} + E_{78} & A_{51} &= I + E_{12} + E_{13} + E_{25} + E_{34} + E_{46} + E_{67} + E_{78} \\
 A_{18} &= I + E_{12} + E_{23} + E_{34} + E_{36} + E_{45} + E_{67} + E_{78} & A_{52} &= I + E_{12} + E_{14} + E_{23} + E_{35} + E_{46} + E_{67} + E_{78} \\
 A_{19} &= I + E_{12} + E_{23} + E_{34} + E_{45} + E_{46} + E_{67} + E_{78} & A_{53} &= I + E_{12} + E_{23} + E_{24} + E_{35} + E_{46} + E_{67} + E_{78} \\
 A_{20} &= I + E_{16} + E_{23} + E_{34} + E_{36} + E_{45} + E_{67} + E_{78} & A_{54} &= I + E_{14} + E_{23} + E_{24} + E_{35} + E_{46} + E_{67} + E_{78} \\
 A_{21} &= I + E_{16} + E_{23} + E_{34} + E_{45} + E_{46} + E_{67} + E_{78} & A_{55} &= I + E_{12} + E_{13} + E_{14} + E_{35} + E_{46} + E_{67} + E_{78} \\
 A_{22} &= I + E_{12} + E_{13} + E_{26} + E_{34} + E_{45} + E_{67} + E_{78} & A_{56} &= I + E_{15} + E_{16} + E_{23} + E_{26} + E_{34} + E_{67} + E_{78} \\
 A_{23} &= I + E_{12} + E_{26} + E_{34} + E_{36} + E_{45} + E_{67} + E_{78} & A_{57} &= I + E_{15} + E_{16} + E_{23} + E_{34} + E_{36} + E_{67} + E_{78} \\
 A_{24} &= I + E_{12} + E_{26} + E_{34} + E_{45} + E_{46} + E_{67} + E_{78} & A_{58} &= I + E_{12} + E_{13} + E_{16} + E_{25} + E_{34} + E_{67} + E_{78} \\
 A_{25} &= I + E_{13} + E_{26} + E_{34} + E_{36} + E_{45} + E_{67} + E_{78} & A_{59} &= I + E_{12} + E_{13} + E_{25} + E_{26} + E_{34} + E_{67} + E_{78} \\
 A_{26} &= I + E_{13} + E_{26} + E_{34} + E_{45} + E_{46} + E_{67} + E_{78} & A_{60} &= I + E_{12} + E_{13} + E_{25} + E_{34} + E_{36} + E_{67} + E_{78} \\
 A_{27} &= I + E_{12} + E_{16} + E_{34} + E_{36} + E_{45} + E_{67} + E_{78} & A_{61} &= I + E_{12} + E_{25} + E_{26} + E_{34} + E_{36} + E_{67} + E_{78} \\
 A_{28} &= I + E_{12} + E_{13} + E_{34} + E_{36} + E_{45} + E_{67} + E_{78} & A_{62} &= I + E_{13} + E_{25} + E_{26} + E_{34} + E_{36} + E_{67} + E_{78} \\
 A_{29} &= I + E_{12} + E_{13} + E_{34} + E_{45} + E_{46} + E_{67} + E_{78} & A_{63} &= I + E_{16} + E_{25} + E_{26} + E_{34} + E_{36} + E_{67} + E_{78} \\
 A_{30} &= I + E_{12} + E_{23} + E_{24} + E_{36} + E_{45} + E_{67} + E_{78} & A_{64} &= I + E_{14} + E_{16} + E_{23} + E_{26} + E_{35} + E_{67} + E_{78} \\
 A_{31} &= I + E_{12} + E_{23} + E_{36} + E_{45} + E_{46} + E_{67} + E_{78} & A_{65} &= I + E_{12} + E_{13} + E_{24} + E_{35} + E_{36} + E_{67} + E_{78} \\
 A_{32} &= I + E_{14} + E_{23} + E_{24} + E_{36} + E_{45} + E_{67} + E_{78} & A_{66} &= I + E_{12} + E_{23} + E_{34} + E_{45} + E_{56} + E_{57} + E_{78} \\
 A_{33} &= I + E_{14} + E_{23} + E_{36} + E_{45} + E_{46} + E_{67} + E_{78} & A_{67} &= I + E_{17} + E_{23} + E_{34} + E_{45} + E_{56} + E_{57} + E_{78} \\
 A_{34} &= I + E_{12} + E_{13} + E_{24} + E_{36} + E_{45} + E_{67} + E_{78} & A_{68} &= I + E_{12} + E_{13} + E_{27} + E_{34} + E_{45} + E_{56} + E_{78}
 \end{aligned}$$









$A_{341}=I+E_{12}+E_{14}+E_{23}+E_{37}+E_{45}+E_{56}+E_{68}$      $A_{373}=I+E_{13}+E_{25}+E_{26}+E_{34}+E_{35}+E_{57}+E_{68}$   
 $A_{342}=I+E_{12}+E_{23}+E_{24}+E_{37}+E_{45}+E_{56}+E_{68}$      $A_{374}=I+E_{16}+E_{25}+E_{26}+E_{34}+E_{35}+E_{57}+E_{68}$   
 $A_{343}=I+E_{14}+E_{23}+E_{24}+E_{37}+E_{45}+E_{56}+E_{68}$      $A_{375}=I+E_{12}+E_{13}+E_{26}+E_{34}+E_{35}+E_{57}+E_{68}$   
 $A_{344}=I+E_{12}+E_{13}+E_{14}+E_{37}+E_{45}+E_{56}+E_{68}$      $A_{376}=I+E_{12}+E_{13}+E_{24}+E_{26}+E_{35}+E_{57}+E_{68}$   
 $A_{345}=I+E_{12}+E_{23}+E_{34}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{377}=I+E_{14}+E_{15}+E_{16}+E_{23}+E_{25}+E_{57}+E_{68}$   
 $A_{346}=I+E_{15}+E_{23}+E_{34}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{378}=I+E_{12}+E_{13}+E_{27}+E_{34}+E_{45}+E_{46}+E_{68}$   
 $A_{347}=I+E_{12}+E_{13}+E_{25}+E_{34}+E_{47}+E_{56}+E_{68}$      $A_{379}=I+E_{12}+E_{13}+E_{14}+E_{27}+E_{36}+E_{45}+E_{68}$   
 $A_{348}=I+E_{12}+E_{25}+E_{34}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{380}=I+E_{12}+E_{14}+E_{27}+E_{36}+E_{45}+E_{46}+E_{68}$   
 $A_{349}=I+E_{13}+E_{25}+E_{34}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{381}=I+E_{12}+E_{13}+E_{27}+E_{36}+E_{45}+E_{46}+E_{68}$   
 $A_{350}=I+E_{12}+E_{15}+E_{34}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{382}=I+E_{12}+E_{23}+E_{24}+E_{37}+E_{45}+E_{46}+E_{68}$   
 $A_{351}=I+E_{12}+E_{13}+E_{34}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{383}=I+E_{14}+E_{23}+E_{24}+E_{37}+E_{45}+E_{46}+E_{68}$   
 $A_{352}=I+E_{12}+E_{13}+E_{24}+E_{35}+E_{47}+E_{56}+E_{68}$      $A_{384}=I+E_{16}+E_{23}+E_{24}+E_{37}+E_{45}+E_{46}+E_{68}$   
 $A_{353}=I+E_{12}+E_{23}+E_{24}+E_{25}+E_{47}+E_{56}+E_{68}$      $A_{385}=I+E_{13}+E_{14}+E_{26}+E_{37}+E_{45}+E_{46}+E_{68}$   
 $A_{354}=I+E_{14}+E_{15}+E_{23}+E_{25}+E_{47}+E_{56}+E_{68}$      $A_{386}=I+E_{12}+E_{13}+E_{14}+E_{37}+E_{45}+E_{46}+E_{68}$   
 $A_{355}=I+E_{14}+E_{15}+E_{23}+E_{24}+E_{47}+E_{56}+E_{68}$      $A_{387}=I+E_{12}+E_{13}+E_{14}+E_{27}+E_{35}+E_{46}+E_{68}$   
 $A_{356}=I+E_{14}+E_{23}+E_{24}+E_{25}+E_{47}+E_{56}+E_{68}$      $A_{388}=I+E_{12}+E_{13}+E_{25}+E_{26}+E_{34}+E_{47}+E_{68}$   
 $A_{357}=I+E_{15}+E_{23}+E_{24}+E_{25}+E_{47}+E_{56}+E_{68}$      $A_{389}=I+E_{12}+E_{13}+E_{14}+E_{28}+E_{37}+E_{45}+E_{56}$   
 $A_{358}=I+E_{13}+E_{15}+E_{24}+E_{25}+E_{47}+E_{56}+E_{68}$      $A_{390}=I+E_{12}+E_{15}+E_{28}+E_{34}+E_{35}+E_{47}+E_{56}$   
 $A_{359}=I+E_{12}+E_{13}+E_{15}+E_{27}+E_{34}+E_{56}+E_{68}$      $A_{391}=I+E_{12}+E_{13}+E_{28}+E_{34}+E_{35}+E_{47}+E_{56}$   
 $A_{360}=I+E_{12}+E_{13}+E_{27}+E_{34}+E_{35}+E_{56}+E_{68}$      $A_{392}=I+E_{12}+E_{23}+E_{24}+E_{25}+E_{38}+E_{47}+E_{56}$   
 $A_{361}=I+E_{14}+E_{15}+E_{23}+E_{25}+E_{37}+E_{56}+E_{68}$      $A_{393}=I+E_{14}+E_{15}+E_{23}+E_{25}+E_{38}+E_{47}+E_{56}$   
 $A_{362}=I+E_{12}+E_{13}+E_{26}+E_{34}+E_{45}+E_{57}+E_{68}$      $A_{394}=I+E_{14}+E_{15}+E_{23}+E_{24}+E_{38}+E_{47}+E_{56}$   
 $A_{363}=I+E_{12}+E_{23}+E_{24}+E_{36}+E_{45}+E_{57}+E_{68}$      $A_{395}=I+E_{14}+E_{23}+E_{24}+E_{25}+E_{38}+E_{47}+E_{56}$   
 $A_{364}=I+E_{14}+E_{23}+E_{24}+E_{36}+E_{45}+E_{57}+E_{68}$      $A_{396}=I+E_{15}+E_{23}+E_{24}+E_{25}+E_{38}+E_{47}+E_{56}$   
 $A_{365}=I+E_{12}+E_{13}+E_{14}+E_{36}+E_{45}+E_{57}+E_{68}$      $A_{397}=I+E_{13}+E_{15}+E_{24}+E_{25}+E_{38}+E_{47}+E_{56}$   
 $A_{366}=I+E_{12}+E_{14}+E_{23}+E_{26}+E_{45}+E_{57}+E_{68}$      $A_{398}=I+E_{12}+E_{13}+E_{14}+E_{15}+E_{38}+E_{47}+E_{56}$   
 $A_{367}=I+E_{14}+E_{16}+E_{23}+E_{24}+E_{45}+E_{57}+E_{68}$      $A_{399}=I+E_{12}+E_{13}+E_{27}+E_{34}+E_{35}+E_{48}+E_{56}$   
 $A_{368}=I+E_{12}+E_{13}+E_{25}+E_{34}+E_{46}+E_{57}+E_{68}$      $A_{400}=I+E_{14}+E_{15}+E_{23}+E_{25}+E_{37}+E_{48}+E_{56}$   
 $A_{369}=I+E_{14}+E_{15}+E_{23}+E_{24}+E_{46}+E_{57}+E_{68}$      $A_{401}=I+E_{12}+E_{13}+E_{14}+E_{28}+E_{36}+E_{45}+E_{57}$   
 $A_{370}=I+E_{15}+E_{16}+E_{23}+E_{34}+E_{35}+E_{57}+E_{68}$      $A_{402}=I+E_{14}+E_{15}+E_{23}+E_{24}+E_{38}+E_{46}+E_{57}$   
 $A_{371}=I+E_{12}+E_{13}+E_{25}+E_{34}+E_{36}+E_{57}+E_{68}$      $A_{403}=I+E_{12}+E_{13}+E_{26}+E_{34}+E_{35}+E_{48}+E_{57}$   
 $A_{372}=I+E_{12}+E_{25}+E_{26}+E_{34}+E_{35}+E_{57}+E_{68}$      $A_{404}=I+E_{12}+E_{13}+E_{14}+E_{27}+E_{36}+E_{45}+E_{58}$