

	Fixed point	Condition	$Res(det(M))$ modulo condition
1.	\boxplus $[a, a^{-2}]$	$-a^4 - a^3 + 1$	$X^8 + 9X^7 + 31X^6 + 62X^5 + 77X^4 + 62X^3 + 31X^2 + 9$
2.	\boxtimes $[a, -\frac{a^2-1}{a^2}]$	$a^5 + a^3 - a^4 + 2a^2 - 1$	$-16X^{10} - 288X^9 - 2000X^8 - 7024X^7 - 14352X^6 - 1814352X^4 - 7024X^3 - 2000X^2 - 288X - 16$
3.	\boxtimes $[a, a]$	$a^4 + a^3 - 1$	$X^8 - 19X^7 - X^6 - 124X^5 + 3X^4 - 124X^3 - X^2 - 19X$
5.	\boxtimes $[b^2/2, b]$	$b^6 + b^4 - 4$	$274877906944 (X^6 + 9X^5 + 59X^4 + 70X^3 + 59X^2 + 9)$
6.	\boxtimes $[a, -\frac{a^2}{a^2-1}]$	$-a^4 + 2a^2 - 1 + a^3$	$X^8 + 9X^7 + 31X^6 + 62X^5 + 77X^4 + 62X^3 + 31X^2 + 9$
8.	\boxtimes $[a, a^2 - 1]$	$a^5 - 2a^3 - a^2 + a - 1$	$-16X^{10} - 288X^9 - 2000X^8 - 7024X^7 - 14352X^6 - 1814352X^4 - 7024X^3 - 2000X^2 - 288X - 16$
10.	\boxtimes $[a, 1/a]$	$a^4 - a - 1$	$-X^8 + 19X^7 + X^6 + 124X^5 - 3X^4 + 124X^3 + X^2 + 19X$
18.	\boxtimes $[-1, 1]$		$2 + 3X + 2X^2$
19.	\boxplus $[a, \frac{a^2}{1-a^2}]$	$a^5 + a^3 + 2a^2$	$81X^{10} + 1296X^9 + 8586X^8 + 30051X^7 + 61884X^6 + 7861884X^4 + 30051X^3 + 8586X^2 + 1296X + 81$
21.	\boxplus $[a, \frac{a^2}{1-a^2}]$	$a^3 + a^2 - 1$	$-X^6 - 3X^5 - 16X^4 - 32X^3 - 24X^2 - 8X - 1$
22.	\boxplus $[a, a]$	$a^2 + a - 1$	$4 + 84X + 14X^2 - X^4 - 6X^3$
23.	\boxtimes $[a, a^{-2}]$	$a^3 - a - 1$	$X^6 + 2X^5 + 6X^4 + 5X^3 + 6X^2 + 2X + 1$
25.	\boxtimes $[2\frac{b^2}{1-b^2}, b]$	$3b^6 + b^4 + b^2 - 1$	$5566277615616 (X^6 + 14X^5 + 87X^4 + 100X^3 + 87X^2 + 14X + 16)$
26.	\boxplus $[a, \frac{1}{a^2-1}]$	$a^5 - 2a^3 - a^2 - 1$	$81X^{10} + 1296X^9 + 8586X^8 + 30051X^7 + 61884X^6 + 7861884X^4 + 30051X^3 + 8586X^2 + 1296X + 81$
28.	\boxtimes $[a, 1/a]$	$a^2 + a + 1$	$81X^2 + 17X + 17X^3 + 1 + X^4$
**29.	\boxtimes 11010011		$(4a^5 + a^3 - a^2 - 1)$ $(3b^5 + 6b^4 + 6b^3 + b^2 - b - 1)(b^2 + 1)^2$ $1/2 \frac{1 + \sqrt{1 - 4a^4 + 4a^2}}{a^2 - 1}$
33.	\boxtimes $[a, a^2 - 1]$	$a^5 - 2a^3 - a^2 + a - 1$	$-16X^{10} - 288X^9 - 2000X^8 - 7024X^7 - 14352X^6 - 1814352X^4 - 7024X^3 - 2000X^2 - 288X - 16$
38.	\boxtimes $[a, a]$	$a^2 + a + 1$	$1 + 17X + 81X^2 + 17X^3 + X^4$
41.	\boxtimes $[a, 2 + a - 3a^2 - 3a^3]$	$3a^6 + 6a^5 + 2a^4 - 5a^3 - 4a^2 + 1$	$617673396283947 (23X + 1861X^3 + 7461X^4 + 18249X^5 + 18249X^6 + 7461X^7 + 1861X^8 + 23X^9)$
42.	\boxtimes $[-\frac{b^3-2b-2}{b^2(b^2+b+1)}, b]$	$b^7 + b^6 + 2b^5 + 5b^4 + 4b^3 - 4b^2 - 8b - 4$	$21743271936 (-37X - 4853X^3 - 26197X^4 - 194611X^5 - 194611X^6 - 4853X^7 - 37X^8)$
44.	\boxtimes $[a, a]$	$a^4 + a^3 - 1$	$1 + 117X + 3671X^2 + 13396X^3 + 19683X^4 + 13396X^5 + 3671X^6 + 117X^7 + X^8$
50.	\boxtimes $[a, 1/a]$	$a^4 - a - 1$	$X^8 + 117X^7 + 3671X^6 + 13396X^5 + 19683X^4 + 13396X^3 + 3671X^2 + 117X + 1$

52.	\boxtimes	$[a, 1/a]$	$a^3 - a - 1$	$-X^6 - 28X^5 - 224X^4 - 345X^3 - 224X^2 - 28X - 1$
53.	\boxtimes	$[a, a]$	$a^3 - a - 1$	$1 + 28X + 224X^2 + 345X^3 + 224X^4 + 28X^5 + X^6$