The eliminant of three two-dimensional conics with a common point

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Abstract

In this paper, I describe the eliminant of three two-dimensional conics with a common point.
The paper ends with "The End"

Introduction

The two-dimensional conic is

$$ax^2 + 2hxy + by^2 + 2fx + 2gy + c = 0$$

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The eliminant of three two-dimensional conics

$$ax^2 + 2hxy + by^2 + 2fx + 2gy + c = 0,$$

$$Ax^2 + 2Hxy + By^2 + 2Fx + 2Gy + C = 0$$

and

$$\alpha x^2 + 2\eta xy + \beta y^2 + 2\phi x + 2\gamma y + \chi = 0$$

such that
(x, y) is a common point
is

$$-B^4c^4\alpha^4 + 8B^3c^3gG\alpha^4 - 8bB^2c^3G^2\alpha^4 - 16B^2c^2g^2G^2\alpha^4 + 32bBc^2gG^3\alpha^4 - 16b^2c^2G^4\alpha^4 + 4bB^3c^3C\alpha^4 - 8B^3c^2g^2C\alpha^4 - 8bB^2c^2gGC\alpha^4 + 32B^2cg^3GC\alpha^4 + 16b^2Bc^2G^2C\alpha^4 - 64bBcg^2G^2C\alpha^4 + 32b^2cgG^3C\alpha^4 - 6b^2B^2c^2C^2\alpha^4 + 16bB^2cg^2C^2\alpha^4 - 16B^2g^4C^2\alpha^4 - 8b^2BcgGC^2\alpha^4 + 32bBg^3GC^2\alpha^4 - 8b^3cG^2C^2\alpha^4 - 16b^2g^2G^2C^2\alpha^4 + 4b^3BcC^3\alpha^4 - 8b^2Bg^2C^3\alpha^4 + 8b^3gGC^3\alpha^4 - b^4C^4\alpha^4 + 4AB^3c^4\alpha^3\beta - 8B^3c^3fF\alpha^3\beta + 8bB^2c^3F^2\alpha^3\beta - 16B^2c^2F^2g^2\alpha^3\beta - 24AB^2c^3gG\alpha^3\beta + 32bBc^2F^2gG\alpha^3\beta + 16AbBc^3G^2\alpha^3\beta + 8aB^2c^3G^2\alpha^3\beta - 16B^2c^2f^2G^2\alpha^3\beta + 32bBc^2fFG^2\alpha^3\beta - 32b^2c^2F^2G^2\alpha^3\beta + 32ABc^2g^2G^2\alpha^3\beta - 32Abc^2gG^3\alpha^3\beta - 32aBc^2gG^3\alpha^3\beta + 32abc^2G^4\alpha^3\beta + 32B^2c^3FGh\alpha^3\beta - 64Bc^2FgG^2h\alpha^3\beta + 64Bc^2fG^3h\alpha^3\beta - 64c^2G^4h^2\alpha^3\beta + 16B^2c^3FgH\alpha^3\beta + 16B^2c^3fGH\alpha^3\beta - 64bBc^3FGH\alpha^3\beta + 64bc^2FgG^2H\alpha^3\beta - 64bc^2fG^3H\alpha^3\beta - 64Bc^3G^2hH\alpha^3\beta + 128c^2gG^3hH\alpha^3\beta - 8B^2c^4H^2\alpha^3\beta + 32Bc^3gGH^2\alpha^3\beta + 32bc^3G^2H^2\alpha^3\beta - 64c^2g^2G^2H^2\alpha^3\beta - 12AbB^2c^3C\alpha^3\beta - 4aB^3c^3C\alpha^3\beta + 8B^3c^2f^2C\alpha^3\beta + 8bB^2c^2fFC\alpha^3\beta - 16b^2Bc^2F^2C\alpha^3\beta + 24AB^2c^2g^2C\alpha^3\beta + 32B^2cfFg^2C\alpha^3\beta + 16AbBc^2gGC\alpha^3\beta + 8aB^2c^2gGC\alpha^3\beta + 32B^2cf^2gGC\alpha^3\beta - 128bBcfFgGC\alpha^3\beta + 32b^2cF^2gGC\alpha^3\beta - 64ABcg^3GC\alpha^3\beta - 16Ab^2c^2G^2C\alpha^3\beta - 32abBc^2G^2C\alpha^3\beta + 32b^2cfFG^2C\alpha^3\beta + 64Abcg^2G^2C\alpha^3\beta + 64aBcg^2G^2C\alpha^3\beta - 64abcgG^3C\alpha^3\beta - 48B^2c^2FghC\alpha^3\beta - 48B^2c^2fGhC\alpha^3\beta + 128BcFg^2GhC\alpha^3\beta - 128BcfgG^2hC\alpha^3\beta + 64Bc^2G^2h^2C\alpha^3\beta + 128cgG^3h^2C\alpha^3\beta - 32B^2c^2fgHC\alpha^3\beta + 32bBc^2FgHC\alpha^3\beta + 32bBc^2fGHC\alpha^3\beta + 64b^2c^2FGHC\alpha^3\beta - 128bcFg^2GHC\alpha^3\beta + 128bcfgG^2HC\alpha^3\beta + 16B^2c^3hHC\alpha^3\beta + 64Bc^2gGhHC\alpha^3\beta - 256cg^2G^2hHC\alpha^3\beta + 16bBc^3H^2C\alpha^3\beta - 32Bc^2g^2H^2C\alpha^3\beta - 96bc^2gGH^2C\alpha^3\beta + 128cg^3GH^2C\alpha^3\beta + 12Ab^2Bc^2C^2\alpha^3\beta + 12abB^2c^2C^2\alpha^3\beta - 16bB^2cf^2C^2\alpha^3\beta + 8b^2BcfFC^2\alpha^3\beta + 8b^3cF^2C^2\alpha^3\beta - 32AbBcg^2C^2\alpha^3\beta - 16aB^2cg^2C^2\alpha^3\beta - 32B^2f^2g^2C^2\alpha^3\beta + 32bBfFg^2C^2\alpha^3\beta - 16b^2F^2g^2C^2\alpha^3\beta + 32ABg^4C^2\alpha^3\beta + 8Ab^2cgGC^2\alpha^3\beta + 16abBcgGC^2\alpha^3\beta + 32bBf^2gGC^2\alpha^3\beta - 32Abg^3GC^2\alpha^3\beta - 32aBg^3GC^2\alpha^3\beta + 24ab^2cG^2C^2\alpha^3\beta - 16b^2f^2G^2C^2\alpha^3\beta + 32abg^2G^2C^2\alpha^3\beta + 64B^2cfghC^2\alpha^3\beta + 32bBcFghC^2\alpha^3\beta - 64BFg^3hC^2\alpha^3\beta + 32bBcfGhC^2\alpha^3\beta - 32b^2cFGhC^2\alpha^3\beta + 64Bfg^2GhC^2\alpha^3\beta - 8B^2c^2h^2C^2\alpha^3\beta - 96BcgGh^2C^2\alpha^3\beta - 32bcG^2h^2C^2\alpha^3\beta - 64g^2G^2h^2C^2\alpha^3\beta - 48b^2cFgHC^2\alpha^3\beta + 64bFg^3HC^2\alpha^3\beta - 48b^2cfGHC^2\alpha^3\beta - 64bfg^2GHC^2\alpha^3\beta - 32bBc^2hHC^2\alpha^3\beta + 64bcgGhHC^2\alpha^3\beta + 128g^3GhHC^2\alpha^3\beta - 8b^2c^2H^2C^2\alpha^3\beta + 64bcg^2H^2C^2\alpha^3\beta - 64g^4H^2C^2\alpha^3\beta - 4Ab^3cC^3\alpha^3\beta - 12ab^2BcC^3\alpha^3\beta + 8b^2Bf^2C^3\alpha^3\beta - 8b^3fFC^3\alpha^3\beta + 8Ab^2g^2C^3\alpha^3\beta + 16abBg^2C^3\alpha^3\beta - 24ab^2gGC^3\alpha^3\beta - 64bBfghC^3\alpha^3\beta + 16b^2FghC^3\alpha^3\beta + 16b^2fGhC^3\alpha^3\beta + 16bBch^2C^3\alpha^3\beta + 32Bg^2h^2C^3\alpha^3\beta + 32bgGh^2C^3\alpha^3\beta + 32b^2fgHC^3\alpha^3\beta + 16b^2chHC^3\alpha^3\beta - 64bg^2hHC^3\alpha^3\beta + 4ab^3C^4\alpha^3\beta - 8b^2h^2C^4\alpha^3\beta -$$

$$6A^2B^2c^4\alpha^2\beta^2 + 24AB^2c^3fF\alpha^2\beta^2 - 16AbBc^3F^2\alpha^2\beta^2 - 8aB^2c^3F^2\alpha^2\beta^2 - 16B^2c^2f^2F^2\alpha^2\beta^2 + 32bBc^2fF^3\alpha^2\beta^2 - 16b^2c^2F^4\alpha^2\beta^2 + 32ABc^2F^2g^2\alpha^2\beta^2 + 24A^2Bc^3gG\alpha^2\beta^2 - 32Abc^2F^2gG\alpha^2\beta^2 - 32aBc^2F^2gG\alpha^2\beta^2 - 8A^2bc^3G^2\alpha^2\beta^2 - 16aABc^3G^2\alpha^2\beta^2 + 32ABc^2f^2G^2\alpha^2\beta^2 - 32Abc^2fFG^2\alpha^2\beta^2 - 32aBc^2fFG^2\alpha^2\beta^2 + 64abc^2F^2G^2\alpha^2\beta^2 - 16A^2c^2g^2G^2\alpha^2\beta^2 + 32aAc^2gG^3\alpha^2\beta^2 - 16a^2c^2G^4\alpha^2\beta^2 - 64Bc^2F^3gh\alpha^2\beta^2 - 64ABc^3FGh\alpha^2\beta^2 + 64Bc^2fF^2Gh\alpha^2\beta^2 + 64Ac^2FgG^2h\alpha^2\beta^2 - 64Ac^2fG^3h\alpha^2\beta^2 - 128c^2F^2G^2h^2\alpha^2\beta^2 - 32ABc^3FgH\alpha^2\beta^2 + 64bc^2F^3gH\alpha^2\beta^2 - 32ABc^3fGH\alpha^2\beta^2 + 64Abc^3FGH\alpha^2\beta^2 + 64aBc^3FGH\alpha^2\beta^2 - 64bc^2fF^2GH\alpha^2\beta^2 - 64ac^2FgG^2H\alpha^2\beta^2 + 64ac^2fG^3H\alpha^2\beta^2 + 64Bc^3F^2hH\alpha^2\beta^2 + 128c^2F^2gGhH\alpha^2\beta^2 + 64Ac^3G^2hH\alpha^2\beta^2 + 128c^2fFG^2hH\alpha^2\beta^2 + 16ABc^4H^2\alpha^2\beta^2 - 32Bc^3fFH^2\alpha^2\beta^2 - 32bc^3F^2H^2\alpha^2\beta^2 - 64c^2F^2g^2H^2\alpha^2\beta^2 - 32Ac^3gGH^2\alpha^2\beta^2 - 32ac^3G^2H^2\alpha^2\beta^2 - 64c^2f^2G^2H^2\alpha^2\beta^2 - 128c^3FGhH^2\alpha^2\beta^2 + 64c^3FgH^3\alpha^2\beta^2 + 64c^3fGH^3\alpha^2\beta^2 - 16c^4H^4\alpha^2\beta^2 + 12A^2bBc^3C\alpha^2\beta^2 + 12aAB^2c^3C\alpha^2\beta^2 - 24AB^2c^2f^2C\alpha^2\beta^2 - 16AbBc^2fFC\alpha^2\beta^2 - 8aB^2c^2fFC\alpha^2\beta^2 + 32B^2cf^3FC\alpha^2\beta^2 + 16Ab^2c^2F^2C\alpha^2\beta^2 + 32abBc^2F^2C\alpha^2\beta^2 - 64bBcf^2F^2C\alpha^2\beta^2 + 32b^2cfF^3C\alpha^2\beta^2 - 24A^2Bc^2g^2C\alpha^2\beta^2 - 64ABcfFg^2C\alpha^2\beta^2 - 8A^2bc^2gGC\alpha^2\beta^2 - 16aABc^2gGC\alpha^2\beta^2 - 64ABcf^2gGC\alpha^2\beta^2 + 128AbcfFgGC\alpha^2\beta^2 + 128aBcfFgGC\alpha^2\beta^2 - 64abcF^2gGC\alpha^2\beta^2 + 32A^2cg^3GC\alpha^2\beta^2 + 32aAbc^2G^2C\alpha^2\beta^2 + 16a^2Bc^2G^2C\alpha^2\beta^2 - 64abcfFG^2C\alpha^2\beta^2 - 64aAcg^2G^2C\alpha^2\beta^2 + 32a^2cgG^3C\alpha^2\beta^2 + 96ABc^2FghC\alpha^2\beta^2 + 128BcfF^2ghC\alpha^2\beta^2 + 96ABc^2fGhC\alpha^2\beta^2 - 128Bcf^2FGhC\alpha^2\beta^2 - 128AcFg^2GhC\alpha^2\beta^2 + 128AcfgG^2hC\alpha^2\beta^2 - 64Bc^2F^2h^2C\alpha^2\beta^2 + 128cF^2gGh^2C\alpha^2\beta^2 - 64Ac^2G^2h^2C\alpha^2\beta^2 + 128cfFG^2h^2C\alpha^2\beta^2 + 64ABc^2fgHC\alpha^2\beta^2 - 32Abc^2FgHC\alpha^2\beta^2 - 32aBc^2FgHC\alpha^2\beta^2 - 128bcfF^2gHC\alpha^2\beta^2 - 32Abc^2fGHC\alpha^2\beta^2 - 32aBc^2fGHC\alpha^2\beta^2 - 128abc^2FGHC\alpha^2\beta^2 + 128bcf^2FGHC\alpha^2\beta^2 + 128acFg^2GHC\alpha^2\beta^2 - 128acfgG^2HC\alpha^2\beta^2 - 32ABc^3hHC\alpha^2\beta^2 - 64Bc^2fFhHC\alpha^2\beta^2 - 64Ac^2gGhHC\alpha^2\beta^2 - 512cfFgGhHC\alpha^2\beta^2 + 256c^2FGh^2HC\alpha^2\beta^2 - 16Abc^3H^2C\alpha^2\beta^2 - 16aBc^3H^2C\alpha^2\beta^2 + 32Bc^2f^2H^2C\alpha^2\beta^2 + 96bc^2fFH^2C\alpha^2\beta^2 + 32Ac^2g^2H^2C\alpha^2\beta^2 + 128cfFg^2H^2C\alpha^2\beta^2 + 96ac^2gGH^2C\alpha^2\beta^2 + 128cf^2gGH^2C\alpha^2\beta^2 - 64c^2FghH^2C\alpha^2\beta^2 - 64c^2fGhH^2C\alpha^2\beta^2 - 128c^2fgH^3C\alpha^2\beta^2 + 64c^3hH^3C\alpha^2\beta^2 - 6A^2b^2c^2C^2\alpha^2\beta^2 - 24aAbBc^2C^2\alpha^2\beta^2 - 6a^2B^2c^2C^2\alpha^2\beta^2 + 32AbBcf^2C^2\alpha^2\beta^2 + 16aB^2cf^2C^2\alpha^2\beta^2 - 16B^2f^4C^2\alpha^2\beta^2 - 8Ab^2cfFC^2\alpha^2\beta^2 - 16abBcfFC^2\alpha^2\beta^2 + 32bBf^3FC^2\alpha^2\beta^2 - 24ab^2cF^2C^2\alpha^2\beta^2 - 16b^2f^2F^2C^2\alpha^2\beta^2 + 16A^2bcg^2C^2\alpha^2\beta^2 + 32aABcg^2C^2\alpha^2\beta^2 + 64ABf^2g^2C^2\alpha^2\beta^2 - 32AbfFg^2C^2\alpha^2\beta^2 - 32aBfFg^2C^2\alpha^2\beta^2 + 32abF^2g^2C^2\alpha^2\beta^2 - 16A^2g^4C^2\alpha^2\beta^2 - 16aAbcgGC^2\alpha^2\beta^2 - 8a^2BcgGC^2\alpha^2\beta^2 - 32Abf^2gGC^2\alpha^2\beta^2 - 32aBf^2gGC^2\alpha^2\beta^2 + 32aAg^3GC^2\alpha^2\beta^2 - 24a^2bcG^2C^2\alpha^2\beta^2 + 32abf^2G^2C^2\alpha^2\beta^2 - 16a^2g^2G^2C^2\alpha^2\beta^2 - 128ABcfghC^2\alpha^2\beta^2 - 32AbcFghC^2\alpha^2\beta^2 - 32aBcFghC^2\alpha^2\beta^2 - 64Bf^2FghC^2\alpha^2\beta^2 + 64AFg^3hC^2\alpha^2\beta^2 - 32AbcfGhC^2\alpha^2\beta^2 - 32aBcfGhC^2\alpha^2\beta^2 + 64Bf^3GhC^2\alpha^2\beta^2 + 64abcFGhC^2\alpha^2\beta^2 - 64Afg^2GhC^2\alpha^2\beta^2 + 16ABc^2h^2C^2\alpha^2\beta^2 + 96BcfFh^2C^2\alpha^2\beta^2 + 32bcF^2h^2C^2\alpha^2\beta^2 - 64F^2g^2h^2C^2\alpha^2\beta^2 + 96AcgGh^2C^2\alpha^2\beta^2 + 32acG^2h^2C^2\alpha^2\beta^2 - 64f^2G^2h^2C^2\alpha^2\beta^2 - 128cFGh^3C^2\alpha^2\beta^2 + 96abcFgHC^2\alpha^2\beta^2 + 64bf^2FgHC^2\alpha^2\beta^2 - 64aFg^3HC^2\alpha^2\beta^2 + 96abcfGHC^2\alpha^2\beta^2 - 64bf^3GHC^2\alpha^2\beta^2 + 64afg^2GHC^2\alpha^2\beta^2 + 32Abc^2hHC^2\alpha^2\beta^2 + 32aBc^2hHC^2\alpha^2\beta^2 - 64bcfFhHC^2\alpha^2\beta^2 + 128fFg^2hHC^2\alpha^2\beta^2 - 64acgGhHC^2\alpha^2\beta^2 + 128f^2gGhHC^2\alpha^2\beta^2 - 64cFgh^2HC^2\alpha^2\beta^2 - 64cfGh^2HC^2\alpha^2\beta^2 + 16abc^2H^2C^2\alpha^2\beta^2 - 64bcf^2H^2C^2\alpha^2\beta^2 - 64acg^2H^2C^2\alpha^2\beta^2 - 128f^2g^2H^2C^2\alpha^2\beta^2 + 256cfghH^2C^2\alpha^2\beta^2 - 96c^2h^2H^2C^2\alpha^2\beta^2 + 12aAb^2cC^3\alpha^2\beta^2 + 12a^2bBcC^3\alpha^2\beta^2 - 8Ab^2f^2C^3\alpha^2\beta^2 - 16abBf^2C^3\alpha^2\beta^2 + 24ab^2fFC^3\alpha^2\beta^2 - 16aAbg^2C^3\alpha^2\beta^2 - 8a^2Bg^2C^3\alpha^2\beta^2 + 24a^2bgGC^3\alpha^2\beta^2 + 64AbfghC^3\alpha^2\beta^2 + 64aBfghC^3\alpha^2\beta^2 - 32abFghC^3\alpha^2\beta^2 - 32abfGhC^3\alpha^2\beta^2 - 16Abch^2C^3\alpha^2\beta^2 - 16aBch^2C^3\alpha^2\beta^2 - 32Bf^2h^2C^3\alpha^2\beta^2 - 32bfFh^2C^3\alpha^2\beta^2 - 32Ag^2h^2C^3\alpha^2\beta^2 - 32agGh^2C^3\alpha^2\beta^2 + 64Fgh^3C^3\alpha^2\beta^2 + 64fGh^3C^3\alpha^2\beta^2 - 64abfgHC^3\alpha^2\beta^2 - 32abchHC^3\alpha^2\beta^2 + 64bf^2hHC^3\alpha^2\beta^2 + 64ag^2hHC^3\alpha^2\beta^2 - 128fgh^2HC^3\alpha^2\beta^2 + 64ch^3HC^3\alpha^2\beta^2 - 6a^2b^2C^4\alpha^2\beta^2 + 16abh^2C^4\alpha^2\beta^2 - 16h^4C^4\alpha^2\beta^2 + 4A^3Bc^4\alpha\beta^3 - 24A^2Bc^3fF\alpha\beta^3 + 8A^2bc^3F^2\alpha\beta^3 + 16aABc^3F^2\alpha\beta^3 + 32ABc^2f^2F^2\alpha\beta^3 - 32Abc^2fF^3\alpha\beta^3 - 32aBc^2fF^3\alpha\beta^3 + 32abc^2F^4\alpha\beta^3 - 16A^2c^2F^2g^2\alpha\beta^3 - 8A^3c^3gG\alpha\beta^3 + 32aAc^2F^2gG\alpha\beta^3 + 8aA^2c^3G^2\alpha\beta^3 - 16A^2c^2f^2G^2\alpha\beta^3 + 32aAc^2fFG^2\alpha\beta^3 - 32a^2c^2F^2G^2\alpha\beta^3 + 64Ac^2F^3gh\alpha\beta^3 + 32A^2c^3FGh\alpha\beta^3 - 64Ac^2fF^2Gh\alpha\beta^3 - 64c^2F^4h^2\alpha\beta^3 + 16A^2c^3FgH\alpha\beta^3 - 64ac^2F^3gH\alpha\beta^3 + 16A^2c^3fGH\alpha\beta^3 - 64aAc^3FGH\alpha\beta^3 + 64ac^2fF^2GH\alpha\beta^3 - 64Ac^3F^2hH\alpha\beta^3 + 128c^2fF^3hH\alpha\beta^3 - 8A^2c^4H^2\alpha\beta^3 + 32Ac^3fFH^2\alpha\beta^3 + 32ac^3F^2H^2\alpha\beta^3 - 64c^2f^2F^2H^2\alpha\beta^3 - 4A^3bc^3C\alpha\beta^3 - 12aA^2Bc^3C\alpha\beta^3 + 24A^2Bc^2f^2C\alpha\beta^3 + 8A^2bc^2fFC\alpha\beta^3 + 16aABc^2fFC\alpha\beta^3 - 64ABcf^3FC\alpha\beta^3 - 32aAbc^2F^2C\alpha\beta^3 - 16a^2Bc^2F^2C\alpha\beta^3 + 64Abcf^2F^2C\alpha\beta^3 + 64aBcf^2F^2C\alpha\beta^3 - 64abcfF^3C\alpha\beta^3 + 8A^3c^2g^2C\alpha\beta^3 + 32A^2cfFg^2C\alpha\beta^3 + 8aA^2c^2gGC\alpha\beta^3 + 32A^2cf^2gGC\alpha\beta^3 - 128aAcfFgGC\alpha\beta^3 + 32a^2cF^2gGC\alpha\beta^3 - 16a^2Ac^2G^2C\alpha\beta^3 + 32a^2cfFG^2C\alpha\beta^3 - 48A^2c^2FghC\alpha\beta^3 - 128AcfF^2ghC\alpha\beta^3 - 48A^2c^2fGhC\alpha\beta^3 + 128Acf^2FGhC\alpha\beta^3 + 64Ac^2F^2h^2C\alpha\beta^3 + 128cfF^3h^2C\alpha\beta^3 - 32A^2c^2fgHC\alpha\beta^3 + 32aAc^2FgHC\alpha\beta^3 + 128acfF^2gHC\alpha\beta^3 + 32aAc^2fGHC\alpha\beta^3 + 64a^2c^2FGHC\alpha\beta^3 - 128acf^2FGHC\alpha\beta^3 + 16A^2c^3hHC\alpha\beta^3 + 64Ac^2fFhHC\alpha\beta^3 - 256cf^2F^2hHC\alpha\beta^3 + 16aAc^3H^2C\alpha\beta^3 - 32Ac^2f^2H^2C\alpha\beta^3 - 96ac^2fFH^2C\alpha\beta^3 + 128cf^3FH^2C\alpha\beta^3 + 12aA^2bc^2C^2\alpha\beta^3 + 12a^2ABc^2C^2\alpha\beta^3 - 16A^2bcf^2C^2\alpha\beta^3 - 32aABcf^2C^2\alpha\beta^3 + 32ABf^4C^2\alpha\beta^3 + 16aAbcfFC^2\alpha\beta^3 + 8a^2BcfFC^2\alpha\beta^3 - 32Abf^3FC^2\alpha\beta^3 - 32aBf^3FC^2\alpha\beta^3 + 24a^2bcF^2C^2\alpha\beta^3 + 32abf^2F^2C^2\alpha\beta^3 - 16aA^2cg^2C^2\alpha\beta^3 - 32A^2f^2g^2C^2\alpha\beta^3 + 32aAfFg^2C^2\alpha\beta^3 - 16a^2F^2g^2C^2\alpha\beta^3 + 8a^2AcgGC^2\alpha\beta^3 + 32aAf^2gGC^2\alpha\beta^3 + 8a^3cG^2C^2\alpha\beta^3 - 16a^2f^2G^2C^2\alpha\beta^3 + 64A^2cfghC^2\alpha\beta^3 + 32aAcFghC^2\alpha\beta^3 + 64Af^2FghC^2\alpha\beta^3 + 32aAcfGhC^2\alpha\beta^3 - 64Af^3GhC^2\alpha\beta^3 - 32a^2cFGhC^2\alpha\beta^3 - 8A^2c^2h^2C^2\alpha\beta^3 - 96AcfFh^2C^2\alpha\beta^3 - 32acF^2h^2C^2\alpha\beta^3 - 64f^2F^2h^2C^2\alpha\beta^3 - 48a^2cFgHC^2\alpha\beta^3 - 64af^2FgHC^2\alpha\beta^3 - 48a^2cfGHC^2\alpha\beta^3 + 64af^3GHC^2\alpha\beta^3 - 32aAc^2hHC^2\alpha\beta^3 + 64acfFhHC^2\alpha\beta^3 + 128f^3FhHC^2\alpha\beta^3 - 8a^2c^2H^2C^2\alpha\beta^3 + 64acf^2H^2C^2\alpha\beta^3 - 64f^4H^2C^2\alpha\beta^3 - 12a^2AbcC^3\alpha\beta^3 - 4a^3BcC^3\alpha\beta^3 + 16aAbf^2C^3\alpha\beta^3 + 8a^2Bf^2C^3\alpha\beta^3 - 24a^2bfFC^3\alpha\beta^3 + 8a^2Ag^2C^3\alpha\beta^3 - 8a^3gGC^3\alpha\beta^3 - 64aAfghC^3\alpha\beta^3 + 16a^2FghC^3\alpha\beta^3 + 16a^2fGhC^3\alpha\beta^3 + 16aAch^2C^3\alpha\beta^3 + 32Af^2h^2C^3\alpha\beta^3 + 32afFh^2C^3\alpha\beta^3 + 32a^2fgHC^3\alpha\beta^3 + 16a^2chHC^3\alpha\beta^3 - 64af^2hHC^3\alpha\beta^3 + 4a^3bC^4\alpha\beta^3 - 8a^2h^2C^4\alpha\beta^3 - A^4c^4\beta^4 + 8A^3c^3fF\beta^4 -$$

$$8aA^2c^3F^2\beta^4 - 16A^2c^2f^2F^2\beta^4 + 32aAc^2fF^3\beta^4 - 16a^2c^2F^4\beta^4 + 4aA^3c^3C\beta^4 - 8A^3c^2f^2C\beta^4 - 8aA^2c^2fFC\beta^4 + 32A^2cf^3FC\beta^4 + 16a^2Ac^2F^2C\beta^4 - 64aAcf^2F^2C\beta^4 + 32a^2cfF^3C\beta^4 - 6a^2A^2c^2C^2\beta^4 + 16aA^2cf^2C^2\beta^4 - 16A^2f^4C^2\beta^4 - 8a^2AcfFC^2\beta^4 + 32aAf^3FC^2\beta^4 - 8a^3cF^2C^2\beta^4 - 16a^2f^2F^2C^2\beta^4 + 4a^3AcC^3\beta^4 - 8a^2Af^2C^3\beta^4 + 8a^3fFC^3\beta^4 - a^4C^4\beta^4 - 8AB^3c^3g\alpha^3\gamma + 48B^3c^2fFg\alpha^3\gamma - 48bB^2c^2F^2g\alpha^3\gamma + 64B^2cF^2g^3\alpha^3\gamma + 16AbB^2c^3G\alpha^3\gamma - 8aB^3c^3G\alpha^3\gamma + 16B^3c^2f^2G\alpha^3\gamma - 80bB^2c^2fFG\alpha^3\gamma + 64b^2Bc^2F^2G\alpha^3\gamma + 32AB^2c^2g^2G\alpha^3\gamma - 64B^2cfFg^2G\alpha^3\gamma - 128bBcF^2g^2G\alpha^3\gamma - 96AbBc^2gG^2\alpha^3\gamma + 32aB^2c^2gG^2\alpha^3\gamma + 128bBcfFgG^2\alpha^3\gamma + 64b^2cF^2gG^2\alpha^3\gamma + 64Ab^2c^2G^3\alpha^3\gamma - 32abBc^2G^3\alpha^3\gamma - 64b^2cfFG^3\alpha^3\gamma - 24B^3c^3Fh\alpha^3\gamma + 32B^2c^2FgGh\alpha^3\gamma - 64B^2c^2fG^2h\alpha^3\gamma + 32bBc^2FG^2h\alpha^3\gamma + 64Bc^2G^3h^2\alpha^3\gamma - 8B^3c^3fH\alpha^3\gamma + 32bB^2c^3FH\alpha^3\gamma - 64B^2c^2Fg^2H\alpha^3\gamma - 32B^2c^2fgGH\alpha^3\gamma + 128bBc^2FgGH\alpha^3\gamma + 96bBc^2fG^2H\alpha^3\gamma - 128b^2c^2FG^2H\alpha^3\gamma + 48B^2c^3GhH\alpha^3\gamma - 64Bc^2gG^2hH\alpha^3\gamma - 64bc^2G^3hH\alpha^3\gamma + 16B^2c^3gH^2\alpha^3\gamma - 64bBc^3GH^2\alpha^3\gamma + 64bc^2gG^2H^2\alpha^3\gamma + 8AbB^2c^2gC\alpha^3\gamma + 16aB^3c^2gC\alpha^3\gamma - 64B^3cf^2gC\alpha^3\gamma + 32bB^2cfFgC\alpha^3\gamma + 32b^2BcF^2gC\alpha^3\gamma - 32AB^2cg^3C\alpha^3\gamma - 64B^2fFg^3C\alpha^3\gamma - 32Ab^2Bc^2GC\alpha^3\gamma + 8abB^2c^2GC\alpha^3\gamma + 32bB^2cf^2GC\alpha^3\gamma + 32b^2BcfFGC\alpha^3\gamma - 64b^3cF^2GC\alpha^3\gamma + 128AbBcg^2GC\alpha^3\gamma - 96aB^2cg^2GC\alpha^3\gamma + 64B^2f^2g^2GC\alpha^3\gamma + 128bBfFg^2GC\alpha^3\gamma - 96Ab^2cgG^2C\alpha^3\gamma + 128abBcgG^2C\alpha^3\gamma - 128bBf^2gG^2C\alpha^3\gamma - 64b^2fFgG^2C\alpha^3\gamma - 32ab^2cG^3C\alpha^3\gamma + 64b^2f^2G^3C\alpha^3\gamma + 32B^3c^2fhC\alpha^3\gamma + 40bB^2c^2FhC\alpha^3\gamma + 32B^2cFg^2hC\alpha^3\gamma + 128B^2cfgGhC\alpha^3\gamma - 256bBcFgGhC\alpha^3\gamma + 96b^2cFG^2hC\alpha^3\gamma - 48B^2c^2Gh^2C\alpha^3\gamma - 128BcgG^2h^2C\alpha^3\gamma - 8bB^2c^2fHC\alpha^3\gamma - 64b^2Bc^2FHC\alpha^3\gamma + 96B^2cfg^2HC\alpha^3\gamma - 256bBcfgGHC\alpha^3\gamma + 128b^2cFgGHC\alpha^3\gamma + 32b^2cfG^2HC\alpha^3\gamma - 80B^2c^2ghHC\alpha^3\gamma + 32bBc^2GhHC\alpha^3\gamma + 128Bcg^2GhHC\alpha^3\gamma + 128bcgG^2hHC\alpha^3\gamma + 32bBc^2gH^2C\alpha^3\gamma + 64b^2c^2GH^2C\alpha^3\gamma - 128bcg^2GH^2C\alpha^3\gamma + 8Ab^2BcgC^2\alpha^3\gamma - 32abB^2cgC^2\alpha^3\gamma + 64bB^2f^2gC^2\alpha^3\gamma - 80b^2BfFgC^2\alpha^3\gamma + 16b^3F^2gC^2\alpha^3\gamma - 32AbBg^3C^2\alpha^3\gamma + 64aB^2g^3C^2\alpha^3\gamma + 16Ab^3cGC^2\alpha^3\gamma + 8ab^2BcGC^2\alpha^3\gamma - 48b^2Bf^2GC^2\alpha^3\gamma + 48b^3fFGC^2\alpha^3\gamma + 32Ab^2g^2GC^2\alpha^3\gamma - 96abBg^2GC^2\alpha^3\gamma + 32ab^2gG^2C^2\alpha^3\gamma - 64bB^2cfhC^2\alpha^3\gamma - 8b^2BcFhC^2\alpha^3\gamma - 128B^2fg^2hC^2\alpha^3\gamma + 96bBFg^2hC^2\alpha^3\gamma + 128bBfgGhC^2\alpha^3\gamma - 32b^2FgGhC^2\alpha^3\gamma - 64b^2fG^2hC^2\alpha^3\gamma + 64B^2cgh^2C^2\alpha^3\gamma + 32bBcGh^2C^2\alpha^3\gamma + 64Bg^2Gh^2C^2\alpha^3\gamma + 40b^2BcfHC^2\alpha^3\gamma + 32b^3cFHC^2\alpha^3\gamma + 32bBfg^2HC^2\alpha^3\gamma - 64b^2Fg^2HC^2\alpha^3\gamma + 32b^2fgGHC^2\alpha^3\gamma + 32bBcghHC^2\alpha^3\gamma - 64Bg^3hHC^2\alpha^3\gamma - 80b^2cGhHC^2\alpha^3\gamma - 64bg^2GhHC^2\alpha^3\gamma - 48b^2cgH^2C^2\alpha^3\gamma + 64bg^3H^2C^2\alpha^3\gamma - 8Ab^3gC^3\alpha^3\gamma + 16ab^2BgC^3\alpha^3\gamma - 8ab^3GC^3\alpha^3\gamma + 32b^2BfhC^3\alpha^3\gamma - 8b^3FhC^3\alpha^3\gamma - 64bBgh^2C^3\alpha^3\gamma + 16b^2Gh^2C^3\alpha^3\gamma - 24b^3fHC^3\alpha^3\gamma + 48b^2ghHC^3\alpha^3\gamma + 24A^2B^2c^3g\alpha^2\beta\gamma - 144AB^2c^2fFg\alpha^2\beta\gamma + 64AbBc^2F^2g\alpha^2\beta\gamma + 80aB^2c^2F^2g\alpha^2\beta\gamma + 64B^2cf^2F^2g\alpha^2\beta\gamma - 128bBcfF^3g\alpha^2\beta\gamma + 64b^2cF^4g\alpha^2\beta\gamma - 128ABcF^2g^3\alpha^2\beta\gamma - 32A^2bBc^3G\alpha^2\beta\gamma + 8aAB^2c^3G\alpha^2\beta\gamma - 16AB^2c^2f^2G\alpha^2\beta\gamma + 96AbBc^2fFG\alpha^2\beta\gamma + 80aB^2c^2fFG\alpha^2\beta\gamma - 64B^2cf^3FG\alpha^2\beta\gamma - 160abBc^2F^2G\alpha^2\beta\gamma + 128bBcf^2F^2G\alpha^2\beta\gamma - 64b^2cfF^3G\alpha^2\beta\gamma - 64A^2Bc^2g^2G\alpha^2\beta\gamma + 128ABcfFg^2G\alpha^2\beta\gamma + 128AbcF^2g^2G\alpha^2\beta\gamma + 128aBcF^2g^2G\alpha^2\beta\gamma + 96A^2bc^2gG^2\alpha^2\beta\gamma + 32aABc^2gG^2\alpha^2\beta\gamma - 128AbcfFgG^2\alpha^2\beta\gamma - 128aBcfFgG^2\alpha^2\beta\gamma - 128abcF^2gG^2\alpha^2\beta\gamma - 96aAbc^2G^3\alpha^2\beta\gamma + 32a^2Bc^2G^3\alpha^2\beta\gamma + 128abcfFG^3\alpha^2\beta\gamma + 40AB^2c^3Fh\alpha^2\beta\gamma - 32B^2c^2fF^2h\alpha^2\beta\gamma + 32bBc^2F^3h\alpha^2\beta\gamma + 256BcF^3g^2h\alpha^2\beta\gamma + 64ABc^2FgGh\alpha^2\beta\gamma - 512BcfF^2gGh\alpha^2\beta\gamma - 64ABc^2fG^2h\alpha^2\beta\gamma - 32Abc^2FG^2h\alpha^2\beta\gamma + 32aBc^2FG^2h\alpha^2\beta\gamma + 256Bcf^2FG^2h\alpha^2\beta\gamma + 320Bc^2F^2Gh^2\alpha^2\beta\gamma + 256cF^2gG^2h^2\alpha^2\beta\gamma + 192Ac^2G^3h^2\alpha^2\beta\gamma - 256cfFG^3h^2\alpha^2\beta\gamma + 8AB^2c^3fH\alpha^2\beta\gamma - 48aB^2c^3FH\alpha^2\beta\gamma + 32B^2c^2f^2FH\alpha^2\beta\gamma - 32bBc^2fF^2H\alpha^2\beta\gamma + 128ABc^2Fg^2H\alpha^2\beta\gamma - 256bcF^3g^2H\alpha^2\beta\gamma + 64ABc^2fgGH\alpha^2\beta\gamma - 256Abc^2FgGH\alpha^2\beta\gamma - 128aBc^2FgGH\alpha^2\beta\gamma + 512bcfF^2gGH\alpha^2\beta\gamma + 96Abc^2fG^2H\alpha^2\beta\gamma - 96aBc^2fG^2H\alpha^2\beta\gamma + 192abc^2FG^2H\alpha^2\beta\gamma - 256bcf^2FG^2H\alpha^2\beta\gamma - 320Bc^2F^2ghH\alpha^2\beta\gamma + 32ABc^3GhH\alpha^2\beta\gamma - 256Bc^2fFGhH\alpha^2\beta\gamma - 64bc^2F^2GhH\alpha^2\beta\gamma - 512cF^2g^2GhH\alpha^2\beta\gamma - 320Ac^2gG^2hH\alpha^2\beta\gamma + 512cfFgG^2hH\alpha^2\beta\gamma - 64ac^2G^3hH\alpha^2\beta\gamma - 384c^2FG^2h^2H\alpha^2\beta\gamma - 64ABc^3gH^2\alpha^2\beta\gamma + 192Bc^2fFgH^2\alpha^2\beta\gamma + 128bc^2F^2gH^2\alpha^2\beta\gamma + 256cF^2g^3H^2\alpha^2\beta\gamma + 32aBc^3GH^2\alpha^2\beta\gamma + 64Bc^2f^2GH^2\alpha^2\beta\gamma - 64bc^2fFGH^2\alpha^2\beta\gamma + 128Ac^2g^2GH^2\alpha^2\beta\gamma - 256cfFg^2GH^2\alpha^2\beta\gamma + 64ac^2gG^2H^2\alpha^2\beta\gamma + 32Bc^3FhH^2\alpha^2\beta\gamma + 640c^2FgGhH^2\alpha^2\beta\gamma + 128c^2fG^2hH^2\alpha^2\beta\gamma - 32Bc^3fH^3\alpha^2\beta\gamma - 256c^2Fg^2H^3\alpha^2\beta\gamma - 128c^2fgGH^3\alpha^2\beta\gamma - 64c^3GhH^3\alpha^2\beta\gamma + 64c^3gH^4\alpha^2\beta\gamma - 16A^2bBc^2gC\alpha^2\beta\gamma - 56aAB^2c^2gC\alpha^2\beta\gamma + 160AB^2cf^2gC\alpha^2\beta\gamma + 64AbBcfFgC\alpha^2\beta\gamma - 96aB^2cfFgC\alpha^2\beta\gamma - 64B^2f^3FgC\alpha^2\beta\gamma - 64Ab^2cF^2gC\alpha^2\beta\gamma - 64abBcF^2gC\alpha^2\beta\gamma + 128bBf^2F^2gC\alpha^2\beta\gamma - 64b^2fF^3gC\alpha^2\beta\gamma + 64A^2Bcg^3C\alpha^2\beta\gamma + 128ABfFg^3C\alpha^2\beta\gamma + 32A^2b^2c^2GC\alpha^2\beta\gamma + 48aAbBc^2GC\alpha^2\beta\gamma - 8a^2B^2c^2GC\alpha^2\beta\gamma - 64AbBcf^2GC\alpha^2\beta\gamma - 64aB^2cf^2GC\alpha^2\beta\gamma + 64B^2f^4GC\alpha^2\beta\gamma - 96Ab^2cfFGC\alpha^2\beta\gamma + 64abBcfFGC\alpha^2\beta\gamma - 128bBf^3FGC\alpha^2\beta\gamma + 160ab^2cF^2GC\alpha^2\beta\gamma + 64b^2f^2F^2GC\alpha^2\beta\gamma - 128A^2bcg^2GC\alpha^2\beta\gamma + 64aABcg^2GC\alpha^2\beta\gamma - 128ABf^2g^2GC\alpha^2\beta\gamma - 128AbfFg^2GC\alpha^2\beta\gamma - 128aBfFg^2GC\alpha^2\beta\gamma + 64aAbcgG^2C\alpha^2\beta\gamma - 128a^2BcgG^2C\alpha^2\beta\gamma + 128Abf^2gG^2C\alpha^2\beta\gamma + 128aBf^2gG^2C\alpha^2\beta\gamma + 128abfFgG^2C\alpha^2\beta\gamma + 64a^2bcG^3C\alpha^2\beta\gamma - 128abf^2G^3C\alpha^2\beta\gamma - 48AB^2c^2fhC\alpha^2\beta\gamma - 80AbBc^2FhC\alpha^2\beta\gamma + 8aB^2c^2FhC\alpha^2\beta\gamma + 32B^2cf^2FhC\alpha^2\beta\gamma - 32b^2cF^3hC\alpha^2\beta\gamma - 192ABcFg^2hC\alpha^2\beta\gamma - 256BfF^2g^2hC\alpha^2\beta\gamma + 256AbcFgGhC\alpha^2\beta\gamma + 512Bf^2FgGhC\alpha^2\beta\gamma + 128aBcfG^2hC\alpha^2\beta\gamma - 256Bf^3G^2hC\alpha^2\beta\gamma - 192abcFG^2hC\alpha^2\beta\gamma - 32ABc^2Gh^2C\alpha^2\beta\gamma - 384BcfFGh^2C\alpha^2\beta\gamma - 256bcF^2Gh^2C\alpha^2\beta\gamma - 256AcgG^2h^2C\alpha^2\beta\gamma - 256fFgG^2h^2C\alpha^2\beta\gamma - 128acG^3h^2C\alpha^2\beta\gamma + 256f^2G^3h^2C\alpha^2\beta\gamma + 384cFG^2h^3C\alpha^2\beta\gamma - 16AbBc^2fHC\alpha^2\beta\gamma + 40aB^2c^2fHC\alpha^2\beta\gamma - 32B^2cf^3HC\alpha^2\beta\gamma + 96abBc^2FHC\alpha^2\beta\gamma + 32b^2cfF^2HC\alpha^2\beta\gamma - 192ABcfg^2HC\alpha^2\beta\gamma + 128AbcFg^2HC\alpha^2\beta\gamma + 256bfF^2g^2HC\alpha^2\beta\gamma + 256aBcfgGHC\alpha^2\beta\gamma - 512bf^2FgGHC\alpha^2\beta\gamma - 192abcfG^2HC\alpha^2\beta\gamma + 256bf^3G^2HC\alpha^2\beta\gamma + 96ABc^2ghHC\alpha^2\beta\gamma + 512BcfFghHC\alpha^2\beta\gamma + 128bcF^2ghHC\alpha^2\beta\gamma - 32Abc^2GhHC\alpha^2\beta\gamma - 96aBc^2GhHC\alpha^2\beta\gamma + 128Bcf^2GhHC\alpha^2\beta\gamma + 512bcfFGhHC\alpha^2\beta\gamma + 384Acg^2GhHC\alpha^2\beta\gamma + 512fFg^2GhHC\alpha^2\beta\gamma + 384acgG^2hHC\alpha^2\beta\gamma - 512f^2gG^2hHC\alpha^2\beta\gamma - 64Bc^2Fh^2HC\alpha^2\beta\gamma - 512cFgGh^2HC\alpha^2\beta\gamma + 128cfG^2h^2HC\alpha^2\beta\gamma + 64Abc^2gH^2C\alpha^2\beta\gamma + 32aBc^2gH^2C\alpha^2\beta\gamma - 256Bcf^2gH^2C\alpha^2\beta\gamma - 384bcfFgH^2C\alpha^2\beta\gamma - 128Acg^3H^2C\alpha^2\beta\gamma - 256fFg^3H^2C\alpha^2\beta\gamma - 32abc^2GH^2C\alpha^2\beta\gamma - 256acg^2GH^2C\alpha^2\beta\gamma + 256f^2g^2GH^2C\alpha^2\beta\gamma + 64Bc^2fhH^2C\alpha^2\beta\gamma - 32bc^2FhH^2C\alpha^2\beta\gamma + 128cFg^2hH^2C\alpha^2\beta\gamma -$$

$$512cfgGhH^2C\alpha^2\beta\gamma + 192c^2Gh^2H^2C\alpha^2\beta\gamma + 32bc^2fH^3C\alpha^2\beta\gamma + 384cfg^2H^3C\alpha^2\beta\gamma - 192c^2ghH^3C\alpha^2\beta\gamma - 8A^2b^2cgC^2\alpha^2\beta\gamma + 48aAbBcgC^2\alpha^2\beta\gamma + 32a^2B^2cgC^2\alpha^2\beta\gamma - 160AbBf^2gC^2\alpha^2\beta\gamma + 80Ab^2fFgC^2\alpha^2\beta\gamma + 96abBfFgC^2\alpha^2\beta\gamma - 16ab^2F^2gC^2\alpha^2\beta\gamma + 32A^2bg^3C^2\alpha^2\beta\gamma - 96aABg^3C^2\alpha^2\beta\gamma - 56aAb^2cGC^2\alpha^2\beta\gamma - 16a^2bBcGC^2\alpha^2\beta\gamma + 80Ab^2f^2GC^2\alpha^2\beta\gamma + 64abBf^2GC^2\alpha^2\beta\gamma - 144ab^2fFGC^2\alpha^2\beta\gamma + 32aAbg^2GC^2\alpha^2\beta\gamma + 96a^2Bg^2GC^2\alpha^2\beta\gamma - 64a^2bgG^2C^2\alpha^2\beta\gamma + 96AbBcfhC^2\alpha^2\beta\gamma + 40Ab^2cFhC^2\alpha^2\beta\gamma - 16abBcFhC^2\alpha^2\beta\gamma - 32bBf^2FhC^2\alpha^2\beta\gamma + 32b^2fF^2hC^2\alpha^2\beta\gamma + 192ABfg^2hC^2\alpha^2\beta\gamma - 96AbFg^2hC^2\alpha^2\beta\gamma + 96aBFg^2hC^2\alpha^2\beta\gamma - 128AbfgGhC^2\alpha^2\beta\gamma - 256aBfgGhC^2\alpha^2\beta\gamma + 64abFgGhC^2\alpha^2\beta\gamma + 128abfG^2hC^2\alpha^2\beta\gamma - 32ABcgh^2C^2\alpha^2\beta\gamma - 64BfFgh^2C^2\alpha^2\beta\gamma + 64bF^2gh^2C^2\alpha^2\beta\gamma + 32AbcGh^2C^2\alpha^2\beta\gamma + 64aBcGh^2C^2\alpha^2\beta\gamma + 128Bf^2Gh^2C^2\alpha^2\beta\gamma + 192bfFGh^2C^2\alpha^2\beta\gamma + 64Ag^2Gh^2C^2\alpha^2\beta\gamma + 128agG^2h^2C^2\alpha^2\beta\gamma + 32BcFh^3C^2\alpha^2\beta\gamma - 128FgGh^3C^2\alpha^2\beta\gamma - 256fG^2h^3C^2\alpha^2\beta\gamma + 8Ab^2cfHC^2\alpha^2\beta\gamma - 80abBcfHC^2\alpha^2\beta\gamma + 32bBf^3HC^2\alpha^2\beta\gamma - 48ab^2cFHC^2\alpha^2\beta\gamma - 32b^2f^2FHC^2\alpha^2\beta\gamma + 32Abfg^2HC^2\alpha^2\beta\gamma - 32aBfg^2HC^2\alpha^2\beta\gamma - 64abFg^2HC^2\alpha^2\beta\gamma + 64abfgGHC^2\alpha^2\beta\gamma - 96AbcghHC^2\alpha^2\beta\gamma - 32aBcghHC^2\alpha^2\beta\gamma - 64Bf^2ghHC^2\alpha^2\beta\gamma - 256bfFghHC^2\alpha^2\beta\gamma - 64Ag^3hHC^2\alpha^2\beta\gamma + 96abcGhHC^2\alpha^2\beta\gamma - 320bf^2GhHC^2\alpha^2\beta\gamma - 320ag^2GhHC^2\alpha^2\beta\gamma - 32Bcfh^2HC^2\alpha^2\beta\gamma + 64bcFh^2HC^2\alpha^2\beta\gamma + 128Fg^2h^2HC^2\alpha^2\beta\gamma + 640fgGh^2HC^2\alpha^2\beta\gamma - 192cGh^3HC^2\alpha^2\beta\gamma - 32abcgH^2C^2\alpha^2\beta\gamma + 320bf^2gH^2C^2\alpha^2\beta\gamma = 0$$

The End