Target equation:

$$-ia_1u^{(1,0)}(x,t)+a_{10}u^{(10,0)}(x,t)-ia_{11}u^{(11,0)}(x,t)+a_{12}u^{(12,0)}(x,t)-ia_{13}u^{(13,0)}(x,t)+a_{14}u^{(14,0)}(x,t)-$$
$$ia_{15}u^{(15,0)}(x,t)+a_{16}u^{(16,0)}(x,t)-ia_{17}u^{(17,0)}(x,t)+a_{18}u^{(18,0)}(x,t)-ia_{19}u^{(19,0)}(x,t)+a_2u^{(2,0)}(x,t)+$$
$$a_{20}u^{(20,0)}(x,t)-ia_{21}u^{(21,0)}(x,t)+a_{22}u^{(22,0)}(x,t)-ia_{23}u^{(23,0)}(x,t)+a_{24}u^{(24,0)}(x,t)-ia_{25}u^{(25,0)}(x,t)+$$
$$a_{26}u^{(26,0)}(x,t) - ia_3u^{(3,0)}(x,t) + a_4u^{(4,0)}(x,t) - ia_5u^{(5,0)}(x,t) + a_6u^{(6,0)}(x,t) - ia_7u^{(7,0)}(x,t) +$$
$$a_8u^{(8,0)}(x,t) - ia_9u^{(9,0)}(x,t) - bu(x,t)\left|u(x,t)\right|^2 + iu^{(0,1)}(x,t) = 0$$

Substitutions:

$$\mathrm{N} = 13$$
$$u(x,t) \to y(z)e^{i(kx-\omega t)}$$
$$z \to x - \mathrm{C0}t$$
$$y(z) \to AR(z)^{13}$$
$$R'(z)^2 = R(z)^2\left(1-\chi R(z)^2\right)$$

Imaginary part of equation after substitutions:

$$-65780a_{26}y^{(5)}(z)k^{21}+53130a_{25}y^{(5)}(z)k^{20}+42504a_{24}y^{(5)}(z)k^{19}+657800a_{26}y^{(7)}(z)k^{19}-33649a_{23}y^{(5)}(z)k^{18}-$$
$$480700a_{25}y^{(7)}(z)k^{18}-26334a_{22}y^{(5)}(z)k^{17}-346104a_{24}y^{(7)}(z)k^{17}-3124550a_{26}y^{(9)}(z)k^{17}+20349a_{21}y^{(5)}(z)k^{16}+$$
$$245157a_{23}y^{(7)}(z)k^{16}+2042975a_{25}y^{(9)}(z)k^{16}+15504a_{20}y^{(5)}(z)k^{15}+170544a_{22}y^{(7)}(z)k^{15}+1307504a_{24}y^{(9)}(z)k^{15}+$$
$$7726160a_{26}y^{(11)}(z)k^{15}-11628a_{19}y^{(5)}(z)k^{14}-116280a_{21}y^{(7)}(z)k^{14}-817190a_{23}y^{(9)}(z)k^{14}-4457400a_{25}y^{(11)}(z)k^{1}$$
$$8568a_{18}y^{(5)}(z)k^{13}-77520a_{20}y^{(7)}(z)k^{13}-497420a_{22}y^{(9)}(z)k^{13}-2496144a_{24}y^{(11)}(z)k^{13}-10400600a_{26}y^{(13)}(z)k^{13}$$
$$6188a_{17}y^{(5)}(z)k^{12}+50388a_{19}y^{(7)}(z)k^{12}+293930a_{21}y^{(9)}(z)k^{12}+1352078a_{23}y^{(11)}(z)k^{12}+5200300a_{25}y^{(13)}(z)k^{12}+$$
$$4368a_{16}y^{(5)}(z)k^{11}+31824a_{18}y^{(7)}(z)k^{11}+167960a_{20}y^{(9)}(z)k^{11}+705432a_{22}y^{(11)}(z)k^{11}+2496144a_{24}y^{(13)}(z)k^{11}+$$
$$7726160a_{26}y^{(15)}(z)k^{11}-3003a_{15}y^{(5)}(z)k^{10}-19448a_{17}y^{(7)}(z)k^{10}-92378a_{19}y^{(9)}(z)k^{10}-352716a_{21}y^{(11)}(z)k^{10}-$$
$$1144066a_{23}y^{(13)}(z)k^{10}-3268760a_{25}y^{(15)}(z)k^{10}-2002a_{14}y^{(5)}(z)k^{9}-11440a_{16}y^{(7)}(z)k^{9}-48620a_{18}y^{(9)}(z)k^{9}-$$
$$167960a_{20}y^{(11)}(z)k^{9}-497420a_{22}y^{(13)}(z)k^{9}-1307504a_{24}y^{(15)}(z)k^{9}-3124550a_{26}y^{(17)}(z)k^{9}+1287a_{13}y^{(5)}(z)k^{8}+$$
$$6435a_{15}y^{(7)}(z)k^{8}+24310a_{17}y^{(9)}(z)k^{8}+75582a_{19}y^{(11)}(z)k^{8}+203490a_{21}y^{(13)}(z)k^{8}+490314a_{23}y^{(15)}(z)k^{8}+$$
$$1081575a_{25}y^{(17)}(z)k^{8}+792a_{12}y^{(5)}(z)k^{7}+3432a_{14}y^{(7)}(z)k^{7}+11440a_{16}y^{(9)}(z)k^{7}+31824a_{18}y^{(11)}(z)k^{7}+$$
$$77520a_{20}y^{(13)}(z)k^{7}+170544a_{22}y^{(15)}(z)k^{7}+346104a_{24}y^{(17)}(z)k^{7}+657800a_{26}y^{(19)}(z)k^{7}-462a_{11}y^{(5)}(z)k^{6}-$$
$$1716a_{13}y^{(7)}(z)k^{6}-5005a_{15}y^{(9)}(z)k^{6}-12376a_{17}y^{(11)}(z)k^{6}-27132a_{19}y^{(13)}(z)k^{6}-54264a_{21}y^{(15)}(z)k^{6}-$$
$$100947a_{23}y^{(17)}(z)k^{6}-177100a_{25}y^{(19)}(z)k^{6}-252a_{10}y^{(5)}(z)k^{5}-792a_{12}y^{(7)}(z)k^{5}-2002a_{14}y^{(9)}(z)k^{5}-$$
$$4368a_{16}y^{(11)}(z)k^{5}-8568a_{18}y^{(13)}(z)k^{5}-15504a_{20}y^{(15)}(z)k^{5}-26334a_{22}y^{(17)}(z)k^{5}-42504a_{24}y^{(19)}(z)k^{5}-$$
$$65780a_{26}y^{(21)}(z)k^{5} + 126a_9y^{(5)}(z)k^{4} + 330a_{11}y^{(7)}(z)k^{4} + 715a_{13}y^{(9)}(z)k^{4} + 1365a_{15}y^{(11)}(z)k^{4} +$$
$$2380a_{17}y^{(13)}(z)k^{4}+3876a_{19}y^{(15)}(z)k^{4}+5985a_{21}y^{(17)}(z)k^{4}+8855a_{23}y^{(19)}(z)k^{4}+12650a_{25}y^{(21)}(z)k^{4}+$$
$$56a_8y^{(5)}(z)k^{3}+120a_{10}y^{(7)}(z)k^{3}+220a_{12}y^{(9)}(z)k^{3}+364a_{14}y^{(11)}(z)k^{3}+560a_{16}y^{(13)}(z)k^{3}+816a_{18}y^{(15)}(z)k^{3}+$$
$$1140a_{20}y^{(17)}(z)k^{3} + 1540a_{22}y^{(19)}(z)k^{3} + 2024a_{24}y^{(21)}(z)k^{3} + 2600a_{26}y^{(23)}(z)k^{3} - 21a_7y^{(5)}(z)k^{2} -$$
$$36a_9y^{(7)}(z)k^{2}-55a_{11}y^{(9)}(z)k^{2}-78a_{13}y^{(11)}(z)k^{2}-105a_{15}y^{(13)}(z)k^{2}-136a_{17}y^{(15)}(z)k^{2}-171a_{19}y^{(17)}(z)k^{2}-$$

$210a_{21}y^{(19)}(z)k^2-253a_{23}y^{(21)}(z)k^2-300a_{25}y^{(23)}(z)k^2-6a_6y^{(5)}(z)k-8a_8y^{(7)}(z)k-10a_{10}y^{(9)}(z)k-$
$12a_{12}y^{(11)}(z)k-14a_{14}y^{(13)}(z)k-16a_{16}y^{(15)}(z)k-18a_{18}y^{(17)}(z)k-20a_{20}y^{(19)}(z)k-22a_{22}y^{(21)}(z)k-$
$24a_{24}y^{(23)}(z)k-26a_{26}y^{(25)}(z)k+(a_1 - C0 + k\,(k\,(k\,(4a_4 + k\,(5a_5 + k\,(k\,(k\,(8a_8 + k\,(9a_9 + k\,(k\,(k\,(12a_{12} + k\,($
$(a_3 + k\,(k\,(k\,(20a_6 + k\,(35a_7 + k\,(k\,(k\,(120a_{10} + k\,(165a_{11} + k\,(k\,(k\,(364a_{14} + k\,(455a_{15} + k\,(k\,(2600a_{26}k^9 -$
$a_5y^{(5)}(z)+a_7y^{(7)}(z)+a_9y^{(9)}(z)+a_{11}y^{(11)}(z)+a_{13}y^{(13)}(z)+a_{15}y^{(15)}(z)+a_{17}y^{(17)}(z)+a_{19}y^{(19)}(z)+$
$a_{21}y^{(21)}(z) + a_{23}y^{(23)}(z) + a_{25}y^{(25)}(z) = 0$

Real part of equation after substitutions:

$-14950a_{26}y^{(4)}(z)k^{22}+12650a_{25}y^{(4)}(z)k^{21}+10626a_{24}y^{(4)}(z)k^{20}+230230a_{26}y^{(6)}(z)k^{20}-8855a_{23}y^{(4)}(z)k^{19}-$
$177100a_{25}y^{(6)}(z)k^{19}-7315a_{22}y^{(4)}(z)k^{18}-134596a_{24}y^{(6)}(z)k^{18}-1562275a_{26}y^{(8)}(z)k^{18}+5985a_{21}y^{(4)}(z)k^{17}+$
$100947a_{23}y^{(6)}(z)k^{17}+1081575a_{25}y^{(8)}(z)k^{17}+4845a_{20}y^{(4)}(z)k^{16}+74613a_{22}y^{(6)}(z)k^{16}+735471a_{24}y^{(8)}(z)k^{16}+$
$5311735a_{26}y^{(10)}(z)k^{16}-3876a_{19}y^{(4)}(z)k^{15}-54264a_{21}y^{(6)}(z)k^{15}-490314a_{23}y^{(8)}(z)k^{15}-3268760a_{25}y^{(10)}(z)k^{15}-$
$3060a_{18}y^{(4)}(z)k^{14}-38760a_{20}y^{(6)}(z)k^{14}-319770a_{22}y^{(8)}(z)k^{14}-1961256a_{24}y^{(10)}(z)k^{14}-9657700a_{26}y^{(12)}(z)k^{14}+$
$2380a_{17}y^{(4)}(z)k^{13}+27132a_{19}y^{(6)}(z)k^{13}+203490a_{21}y^{(8)}(z)k^{13}+1144066a_{23}y^{(10)}(z)k^{13}+5200300a_{25}y^{(12)}(z)k^{13}+$
$1820a_{16}y^{(4)}(z)k^{12}+18564a_{18}y^{(6)}(z)k^{12}+125970a_{20}y^{(8)}(z)k^{12}+646646a_{22}y^{(10)}(z)k^{12}+2704156a_{24}y^{(12)}(z)k^{12}+$
$9657700a_{26}y^{(14)}(z)k^{12}-1365a_{15}y^{(4)}(z)k^{11}-12376a_{17}y^{(6)}(z)k^{11}-75582a_{19}y^{(8)}(z)k^{11}-352716a_{21}y^{(10)}(z)k^{11}-$
$1352078a_{23}y^{(12)}(z)k^{11}-4457400a_{25}y^{(14)}(z)k^{11}-1001a_{14}y^{(4)}(z)k^{10}-8008a_{16}y^{(6)}(z)k^{10}-43758a_{18}y^{(8)}(z)k^{10}-$
$184756a_{20}y^{(10)}(z)k^{10} - 646646a_{22}y^{(12)}(z)k^{10} - 1961256a_{24}y^{(14)}(z)k^{10} - 5311735a_{26}y^{(16)}(z)k^{10} +$
$715a_{13}y^{(4)}(z)k^9+5005a_{15}y^{(6)}(z)k^9+24310a_{17}y^{(8)}(z)k^9+92378a_{19}y^{(10)}(z)k^9+293930a_{21}y^{(12)}(z)k^9+$
$817190a_{23}y^{(14)}(z)k^9+2042975a_{25}y^{(16)}(z)k^9+495a_{12}y^{(4)}(z)k^8+3003a_{14}y^{(6)}(z)k^8+12870a_{16}y^{(8)}(z)k^8+$
$43758a_{18}y^{(10)}(z)k^8+125970a_{20}y^{(12)}(z)k^8+319770a_{22}y^{(14)}(z)k^8+735471a_{24}y^{(16)}(z)k^8+1562275a_{26}y^{(18)}(z)k^8-$
$330a_{11}y^{(4)}(z)k^7-1716a_{13}y^{(6)}(z)k^7-6435a_{15}y^{(8)}(z)k^7-19448a_{17}y^{(10)}(z)k^7-50388a_{19}y^{(12)}(z)k^7-$
$116280a_{21}y^{(14)}(z)k^7-245157a_{23}y^{(16)}(z)k^7-480700a_{25}y^{(18)}(z)k^7-210a_{10}y^{(4)}(z)k^6-924a_{12}y^{(6)}(z)k^6-$
$3003a_{14}y^{(8)}(z)k^6-8008a_{16}y^{(10)}(z)k^6-18564a_{18}y^{(12)}(z)k^6-38760a_{20}y^{(14)}(z)k^6-74613a_{22}y^{(16)}(z)k^6-$
$134596a_{24}y^{(18)}(z)k^6-230230a_{26}y^{(20)}(z)k^6+126a_9y^{(4)}(z)k^5+462a_{11}y^{(6)}(z)k^5+1287a_{13}y^{(8)}(z)k^5+$
$3003a_{15}y^{(10)}(z)k^5+6188a_{17}y^{(12)}(z)k^5+11628a_{19}y^{(14)}(z)k^5+20349a_{21}y^{(16)}(z)k^5+33649a_{23}y^{(18)}(z)k^5+$
$53130a_{25}y^{(20)}(z)k^5 + 70a_8y^{(4)}(z)k^4 + 210a_{10}y^{(6)}(z)k^4 + 495a_{12}y^{(8)}(z)k^4 + 1001a_{14}y^{(10)}(z)k^4 +$
$1820a_{16}y^{(12)}(z)k^4+3060a_{18}y^{(14)}(z)k^4+4845a_{20}y^{(16)}(z)k^4+7315a_{22}y^{(18)}(z)k^4+10626a_{24}y^{(20)}(z)k^4+$
$14950a_{26}y^{(22)}(z)k^4-35a_7y^{(4)}(z)k^3-84a_9y^{(6)}(z)k^3-165a_{11}y^{(8)}(z)k^3-286a_{13}y^{(10)}(z)k^3-455a_{15}y^{(12)}(z)k^3-$
$680a_{17}y^{(14)}(z)k^3 - 969a_{19}y^{(16)}(z)k^3 - 1330a_{21}y^{(18)}(z)k^3 - 1771a_{23}y^{(20)}(z)k^3 - 2300a_{25}y^{(22)}(z)k^3 -$
$15a_6y^{(4)}(z)k^2-28a_8y^{(6)}(z)k^2-45a_{10}y^{(8)}(z)k^2-66a_{12}y^{(10)}(z)k^2-91a_{14}y^{(12)}(z)k^2-120a_{16}y^{(14)}(z)k^2-$
$153a_{18}y^{(16)}(z)k^2 - 190a_{20}y^{(18)}(z)k^2 - 231a_{22}y^{(20)}(z)k^2 - 276a_{24}y^{(22)}(z)k^2 - 325a_{26}y^{(24)}(z)k^2 +$
$5a_5y^{(4)}(z)k+7a_7y^{(6)}(z)k+9a_9y^{(8)}(z)k+11a_{11}y^{(10)}(z)k+13a_{13}y^{(12)}(z)k+15a_{15}y^{(14)}(z)k+17a_{17}y^{(16)}(z)k+$
$19a_{19}y^{(18)}(z)k+21a_{21}y^{(20)}(z)k+23a_{23}y^{(22)}(z)k+25a_{25}y^{(24)}(z)k-by(z)^3+(-a_{26}k^{26} + a_{25}k^{25} + a_{24}k^{24} - a_{23}k^{23}$
$(a_2 + k\,(3a_3 + k\,(k\,(15a_6 + k\,(21a_7 + k\,(k\,(45a_{10} + k\,(55a_{11} + k\,(k\,(91a_{14} + k\,(105a_{15} + k\,(k\,(325a_{26}k$

$a_4 y^{(4)}(z) + a_6 y^{(6)}(z) + a_8 y^{(8)}(z) + a_{10} y^{(10)}(z) + a_{12} y^{(12)}(z) + a_{14} y^{(14)}(z) + a_{16} y^{(16)}(z) + a_{18} y^{(18)}(z) +$
$a_{20} y^{(20)}(z) + a_{22} y^{(22)}(z) + a_{24} y^{(24)}(z) + a_{26} y^{(26)}(z) = 0$

Constraints on coefficients from imaginary part of equation:

$a_{25} \to 26 a_{26} k$

$a_{23} \to 24 a_{24} k + 5200 a_{26} k^3$

$a_{21} \to 22 a_{22} k + 4048 a_{24} k^3 + 1052480 a_{26} k^5$

$a_{19} \to 20 a_{20} k + 3080 a_{22} k^3 + 680064 a_{24} k^5 + 178921600 a_{26} k^7$

$a_{17} \to 18 a_{18} k + 2280 a_{20} k^3 + 421344 a_{22} k^5 + 94140288 a_{24} k^7 + 24796428800 a_{26} k^9$

$a_{15} \to 16 a_{16} k + 1632 a_{18} k^3 + 248064 a_{20} k^5 + 46387968 a_{22} k^7 + 10376351744 a_{24} k^9 + 2733453598720 a_{26} k^{11}$

$a_{13} \to 14 a_{14} k + 1120 a_{16} k^3 + 137088 a_{18} k^5 + 21085440 a_{20} k^7 + 3947525120 a_{22} k^9 + 883115778048 a_{24} k^{11} +$
$232643283353600 a_{26} k^{13}$

$a_{11} \to 12 a_{12} k + 728 a_{14} k^3 + 69888 a_{16} k^5 + 8656128 a_{18} k^7 + 1332930560 a_{20} k^9 + 249576198144 a_{22} k^{11} +$
$55834388004864 a_{24} k^{13} + 14708733593681920 a_{26} k^{15}$

$a_9 \to 10 a_{10} k + 440 a_{12} k^3 + 32032 a_{14} k^5 + 3111680 a_{16} k^7 + 385848320 a_{18} k^9 + 59422904320 a_{20} k^{11} +$
$11126417899520 a_{22} k^{13} + 2489170300469248 a_{24} k^{15} + 655734757395660800 a_{26} k^{17}$

$a_7 \to 240 a_{10} k^3 + 12672 a_{12} k^5 + 933504 a_{14} k^7 + 90787840 a_{16} k^9 + 11259076608 a_{18} k^{11} + 1733987205120 a_{20} k^{13} +$
$324674387017728 a_{22} k^{15} + 72635234665365504 a_{24} k^{17} + 19134668627220889600 a_{26} k^{19} + 8 a_8 k$

$a_5 \to 4032 a_{10} k^5 + 215424 a_{12} k^7 + 15887872 a_{14} k^9 + 1545363456 a_{16} k^{11} + 191651217408 a_{18} k^{13} +$
$29515853365248 a_{20} k^{15} + 5526593941929984 a_{22} k^{17} + 1236393972835811328 a_{24} k^{19} + 325709541934503034880 a_2$
$6 a_6 k + 112 a_8 k^3$

$a_3 \to 32640 a_{10} k^7 + 1745920 a_{12} k^9 + 128780288 a_{14} k^{11} + 12526223360 a_{16} k^{13} + 1553465966592 a_{18} k^{15} +$
$239246490992640 a_{20} k^{17} + 44796883073761280 a_{22} k^{19} + 10021832059523170304 a_{24} k^{21} + 2640102104917816115 2$
$4 a_4 k + 40 a_6 k^3 + 896 a_8 k^5$

$C0 \to a_1 - 79360 a_{10} k^9 - 4245504 a_{12} k^{11} - 313155584 a_{14} k^{13} - 30460116992 a_{16} k^{15} - 3777576173568 a_{18} k^{17} -$
$2 a_2 k - 581777702256640 a_{20} k^{19} - 108932957168730112 a_{22} k^{21} - 24370173276164456448 a_{24} k^{23} -$
$6419958484945407574016 a_{26} k^{25} - 8 a_4 k^3 - 96 a_6 k^5 - 2176 a_8 k^7$

Constraints on coefficients from real part of equation:

$b \to -\frac{10919016084008928399404244664320000000 a_{26} \chi^{13}}{A^2}$

$a_{24} \to -325 a_{26} k^2 - 8853 a_{26}$

$a_{22} \to 14950 a_{26} k^4 + 2443428 a_{26} k^2 + 35247342 a_{26}$

$a_{20} \to -230230 a_{26} k^6 - 94071978 a_{26} k^4 - 8142136002 a_{26} k^2 - 83468480238 a_{26}$

$a_{18} \to 1562275 a_{26} k^8 + 1191578388 a_{26} k^6 + 257834306730 a_{26} k^4 + 15859011245220 a_{26} k^2 + 131010543696747 a_{26}$

$a_{16} \to -5311735 a_{26} k^{10} - 6511124763 a_{26} k^8 - 2629909928646 a_{26} k^6 - 404404786753110 a_{26} k^4 -$
$20044613185602291 a_{26} k^2 - 14374632717909894 3 a_{26}$

$a_{14} \to 9657700a_{26}k^{12} + 17362999368a_{26}k^{10} + 11271042551340a_{26}k^8 + 3235238294024880a_{26}k^6 +$
$400892263712045820a_{26}k^4 + 172495592614918731 60a_{26}k^2 + 113281611928965609972a_{26}$
$a_{12} \to -9657700a_{26}k^{14} - 23939893068a_{26}k^{12} - 22792552714932a_{26}k^{10} - 10514524455580860a_{26}k^8 -$
$2432079733186411308a_{26}k^6 - 26161831546596007626 0a_{26}k^4 - 1030862668553587050 7452a_{26}k^2 -$
$64833290426791693735188a_{26}$
$a_{10} \to 5311735a_{26}k^{16} + 17362999368a_{26}k^{14} + 22792552714932a_{26}k^{12} + 15421302534851928a_{26}k^{10} +$
$5732759371082255226a_{26}k^8 + 11511205880502243355 44a_{26}k^6 + 11339489354089457558 1972a_{26}k^4 +$
$427899716816825178652240 8a_{26}k^2 + 26909157364413628487178567a_{26}$
$a_8 \to -1562275a_{26}k^{18} - 6511124763a_{26}k^{16} - 11271042551340a_{26}k^{14} - 10514524455580860a_{26}k^{12} -$
$5732759371082255226a_{26}k^{10} - 18500152307950033964 10a_{26}k^8 - 3401846806226837267459 16a_{26}k^6 -$
$32092478761261888398918060a_{26}k^4 - 12109120813986132819230355 15a_{26}k^2 - 7988017750729673281619483 2$
$a_6 \to 230230a_{26}k^{20} + 1191578388a_{26}k^{18} + 2629909928646a_{26}k^{16} + 3235238294024880a_{26}k^{14} +$
$2432079733186411308a_{26}k^{12} + 11511205880502243355 44a_{26}k^{10} + 3401846806226837267459 16a_{26}k^8 +$
$5990596035435552501131371 2a_{26}k^6 + 56509230465268619823074990 70a_{26}k^4 + 22366449702043085188534552$
$16460180227255257278590187492 46a_{26}$
$a_4 \to -14950a_{26}k^{22} - 94071978a_{26}k^{20} - 257834306730a_{26}k^{18} - 404404786753110a_{26}k^{16} - 400892263712045820$
$26161831546596007626 0a_{26}k^{12} - 11339489354089457558 1972a_{26}k^{10} - 32092478761261888398918060a_{26}k^8 -$
$56509230465268619823074990 70a_{26}k^6 - 55916124255107712971336382 4210a_{26}k^4 - 24690270340882885917 88$
$22262140205449912407080124465 7950a_{26}$
$a_2 \to 325a_{26}k^{24} + 2443428a_{26}k^{22} + 8142136002a_{26}k^{20} + 15859011245220a_{26}k^{18} + 20044613185602291a_{26}k^{16} +$
$172495592614918731 60a_{26}k^{14} + 1030862668553587050 7452a_{26}k^{12} + 427899716816825178652240 8a_{26}k^{10} +$
$12109120813986132819230355 15a_{26}k^8 + 22366449702043085188534559 684a_{26}k^6 + 24690270340882885917 88$
$13357284123269947444248074679477 00a_{26}k^2 + 17686015478232327525789910529038125a_{26}$
$\omega \to -a_1k + 25a_{26}k^{26} + 203619a_{26}k^{24} + 740194182a_{26}k^{22} + 1585901124522a_{26}k^{20} + 2227179242844699a_{26}k^{18} +$
$215619490768648414 5a_{26}k^{16} + 147266095507655292 9636a_{26}k^{14} + 713166194694708631087068a_{26}k^{12} +$
$242182416279722656384607103a_{26}k^{10} + 55916124255107712971336382421a_{26}k^8 + 82300901136276286392950$
$66786420616349737221240373397385 0a_{26}k^4 + 17686015478232327525789910529038125a_{26}k^2 -$
$62239038467816611103980377139101 5625a_{26}$

y(z) - function:

$$\frac{67108864a^{13}A}{(4a^2e^z + \chi e^{-z})^{13}}$$

u(x, t) - function:

$$\frac{67108864a^{13}Ae^{i(kx-\omega t)}}{(4a^2e^{\mathrm{C0}t+x} + \chi e^{-\mathrm{C0}t-x})^{13}}$$