

fitCTVARMx: Internal Tests

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Tests

```
#> test-fitCTVARMx-fit-ct-var-id-mx-sigma-diag
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far: -2707.31197426421
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2707.312 (started at -2583.5637) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> -0.545410808015616,0.655791704057053,-0.4319181053049,0.0684713570989829,-0.1952231790709,0.85913
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far: -2726.62588111983
#>
#> Solution found
```

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#>
#> Solution found! Final fit=-2726.6259 (started at -2584.9163) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.213900151770005,0.861186849501166,-0.405561461480421,-0.131907517647472,-0.523808720935904,0.8
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> -0.37965548  0.75848928 -0.41873978 -0.03171808 -0.35951595  0.86221607
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#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#> 0.02195558 -0.08616503 -0.86629112 0.09721581 0.10211013 0.10053139
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5454108 0.6557917 -0.4319181 0.06847136 -0.1952232 0.8591364
#> [2,] -0.2139002 0.8611868 -0.4055615 -0.13190752 -0.5238087 0.8652957
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#> [1,] -0.05178730 -0.25075038 -0.7402852 0.10027176 0.10763468 0.09333226
#> [2,] 0.09569846 0.07842031 -0.9922970 0.09415987 0.09658558 0.10773053
#> Test passed

#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far: -2707.31197426421
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=-2707.312 (started at -2692.6342) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> -0.545410822968464,0.655791720204795,-0.431918099282865,0.0684713331800128,-0.195223149243982,0.8591364
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far: -2726.62588111933
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=-2726.6259 (started at -2715.8485) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.213900127082883,0.861186936784289,-0.405561515713572,-0.131907503993629,-0.523808771434401,0.8652957
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> -0.37965548 0.75848933 -0.41873981 -0.03171809 -0.35951596 0.86221611
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33

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#> 0.02195557 -0.08616504 -0.86629114 0.09721581 0.10211014 0.10053139
#>
#> Estimated paramaters per individual.
#>      phi_11    phi_21    phi_31    phi_12    phi_22    phi_32
#> [1,] -0.5454108 0.6557917 -0.4319181 0.06847133 -0.1952231 0.8591364
#> [2,] -0.2139001 0.8611869 -0.4055615 -0.13190750 -0.5238088 0.8652958
#>      phi_13    phi_23    phi_33    sigma_11    sigma_22    sigma_33
#> [1,] -0.05178729 -0.25075041 -0.7402852 0.10027176 0.10763469 0.09333226
#> [2,] 0.09569843 0.07842032 -0.9922971 0.09415987 0.09658559 0.10773052
#> Test passed

#> test-fitCTVARm-fit-ct-var-id-m-sigma-full-iota
#> Running CTVAR with 21 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2708.30352478403
#> Not all eigenvalues of the Hessian are positive: 30721089.926683, 24835803.7013657,
20405567.9407961, 108357.114679194, 97945.2541152169, 90869.5887398491, 17750.7056309225,
17431.0121237759, 16343.315479509, 584.689320235362, 551.851004503713, 493.793471345016,
140.979956007956, 134.124452176923, 121.424223969448, 48.0105428890707, 42.9996605685013,
39.7787612725532, 1.73320819374214e-11, 4.78476574482658e-14, -1.49220592367107e-12
#>
#> Beginning fit attempt 1 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 30721089.926683, 24835803.7013657,
20405567.9407961, 108357.114679194, 97945.2541152169, 90869.5887398491, 17750.7056309225,
17431.0121237759, 16343.315479509, 584.689320235362, 551.851004503713, 493.793471345016,
140.979956007956, 134.124452176923, 121.424223969448, 48.0105428890707, 42.9996605685013,
39.7787612725532, 1.73320819374214e-11, 4.78476574482658e-14, -1.49220592367107e-12
#>
#> Beginning fit attempt 2 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 3 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 4 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

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#>
#> Beginning fit attempt 5 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 6 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 7 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2708.30352549538
#> Not all eigenvalues of the Hessian are positive: 30715706.8728482, 24836590.5358908,
20405894.3730669, 108351.898153855, 97937.7532203767, 90869.6891813856, 17750.795759219,
17431.2435509511, 16341.2121533137, 584.644701175705, 551.895939705461, 493.752025768175,
140.982024378606, 134.157791285647, 121.460361670544, 48.0623885088834, 43.0384155163238,
39.81612076399, 4.70769135715743e-12, -6.71545772831046e-14, -2.73993619003635e-12
#>
#> Beginning fit attempt 8 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 30715706.8728482, 24836590.5358908,
20405894.3730669, 108351.898153855, 97937.7532203767, 90869.6891813856, 17750.795759219,
17431.2435509511, 16341.2121533137, 584.644701175705, 551.895939705461, 493.752025768175,
140.982024378606, 134.157791285647, 121.460361670544, 48.0623885088834, 43.0384155163238,
39.81612076399, 4.70769135715743e-12, -6.71545772831046e-14, -2.73993619003635e-12
#>
#> Beginning fit attempt 9 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 10 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 11 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 12 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 13 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 14 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 15 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 16 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 17 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 18 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 19 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 20 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 21 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 22 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 23 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 24 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 25 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 26 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 27 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 28 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 29 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 30 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 31 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 32 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 33 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 34 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 35 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 36 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 37 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 38 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 39 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 40 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 41 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 42 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 43 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2708.30352549541
#> Not all eigenvalues of the Hessian are positive: 30715706.9659415, 24836580.2893508,
20405879.3623156, 108351.873245002, 97937.7119097937, 90869.6424642795, 17750.8133976129,
17431.2066611497, 16341.1523589521, 584.681806732089, 551.854423308197, 493.810072454404,
140.894184721239, 134.092124349071, 121.373844675389, 48.0102016597413, 42.9643794036724,
39.7566684526997, 3.46954397333335e-12, 4.48259386195968e-13, -1.67160017605372e-12
#>
#> Beginning fit attempt 44 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2708.30352549541
#>
#> Solution found

#>
#> Solution found! Final fit=-2708.3035 (started at 59.80475) (45 attempt(s): 6
valid, 39 errors)
#> Start values from best fit:
#> -0.53424174174598,0.627973705900119,-0.43455415687482,0.0533435585140599,-0.1895535003264,0.8656
#> Running CTVAR with 21 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 21 parameters
#>

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#> Lowest minimum so far: -2729.43541395444
#> Not all eigenvalues of the Hessian are positive: 29525705.9055929, 28656950.1464639,
23524019.7246255, 112732.481235428, 97113.196590125, 92650.4448569709, 21754.029510104,
18545.9100880615, 17400.1035492018, 773.879972327591, 706.580507800484, 630.665094259713,
184.011610445546, 171.687958187964, 152.281192956974, 42.2538812076026, 38.84412417822,
34.1236100200421, 8.89886978732532e-14, -5.97435698794228e-13, -2.83665526329654e-12
#>
#> Beginning fit attempt 1 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395448
#> Not all eigenvalues of the Hessian are positive: 29525739.4036879, 28656971.1045355,
23524038.5888871, 112732.579764377, 97113.256579303, 92650.5162867428, 21754.0106222086,
18545.8878406483, 17400.1252515248, 773.951878436341, 706.497197444437, 630.61066816484,
183.908394629526, 171.5939945605, 152.236457680256, 42.2582365513981, 38.7628126700805,
34.0740821749544, 3.79527845997722e-12, -2.41849207086018e-12, -3.55992902484684e-12
#>
#> Beginning fit attempt 2 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525739.4036879, 28656971.1045355,
23524038.5888871, 112732.579764377, 97113.256579303, 92650.5162867428, 21754.0106222086,
18545.8878406483, 17400.1252515248, 773.951878436341, 706.497197444437, 630.61066816484,
183.908394629526, 171.5939945605, 152.236457680256, 42.2582365513981, 38.7628126700805,
34.0740821749544, 3.79527845997722e-12, -2.41849207086018e-12, -3.55992902484684e-12
#>
#> Beginning fit attempt 3 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 4 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 5 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 6 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 7 of at maximum 1000 extra tries

```

```

#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 8 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 9 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 10 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 11 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 12 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 13 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 14 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 15 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 16 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

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```
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 17 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 18 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 19 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 20 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 21 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 22 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 23 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 24 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 25 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 26 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 27 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 28 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 29 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 30 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 31 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 32 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 33 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 34 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 35 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 36 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 37 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 38 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 39 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 40 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 41 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 42 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 43 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 44 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525743.8420324, 28656976.2758799,
23524051.4312374, 112732.585293434, 97113.2693510236, 92650.547804536, 21754.0187932382,
18545.9186762445, 17400.1071130097, 773.932233637755, 706.567219067928, 630.616959229026,
183.950508593309, 171.683084294044, 152.24346753237, 42.1980409141426, 38.8217290505691,
34.0540921010474, 1.21626158829551e-12, -1.16527305178555e-12, -2.48126691216048e-12
#>
#> Beginning fit attempt 45 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 46 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 47 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 48 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 49 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 50 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 51 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 52 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 53 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 54 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525727.9448236, 28656978.4478402,
23524024.0073603, 112732.562354624, 97113.2414107415, 92650.527942708, 21754.0776522853,
18545.9571176036, 17400.1629194276, 773.920326661867, 706.535234657546, 630.630957563997,
183.955987680964, 171.676444798944, 152.259133152876, 42.2460829837531, 38.8429542619416,
34.096437173852, 1.87830615242087e-12, -6.8731520366054e-13, -2.57410699068038e-12
#>
#> Beginning fit attempt 55 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 56 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 57 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 58 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 59 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 60 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 61 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 62 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 63 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 64 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 65 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 66 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 67 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 68 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 69 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



```
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 70 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 71 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 72 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 73 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 74 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 75 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 76 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 77 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 78 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 79 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 80 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 81 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 82 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29522031.7186576, 28656749.3678209,
23524046.1730198, 112725.924325927, 97112.8828479809, 92644.5231187633, 21754.0188461907,
18543.6537641777, 17400.0492988997, 773.946226014426, 706.498570544633, 630.599554970387,
183.942830141076, 171.572342183802, 152.16547884563, 42.2137763073457, 38.7368913411894,
34.0425996450462, 2.9277189664995e-12, 1.96341273095948e-13, -5.19255121144835e-13
#>
#> Beginning fit attempt 83 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 84 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 85 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 86 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 87 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 88 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 89 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 90 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 91 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 92 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 93 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 94 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 95 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 96 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 97 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 98 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 99 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 100 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 101 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 102 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 103 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 104 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 105 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 106 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 107 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 108 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 109 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 110 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 111 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 112 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 113 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 114 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 115 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 116 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 117 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 118 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 119 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 120 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 121 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 122 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 123 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 124 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 125 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395449
#> Not all eigenvalues of the Hessian are positive: 29525734.8443282, 28656972.5823718,
23524049.4554399, 112732.603752389, 97113.2707688516, 92650.5581362037, 21754.0333969796,
18545.9417533286, 17400.1934450847, 773.862127046422, 706.593545419702, 630.678548802254,
184.002979575156, 171.708835575863, 152.311951357382, 42.2410544919784, 38.8594851899725,
34.0986640394033, 3.99705687368341e-12, 1.51039289701741e-12, -2.53116400841429e-12
#>
#> Beginning fit attempt 126 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.4354139545
#> Not all eigenvalues of the Hessian are positive: 29525746.322546, 28656975.1333636,
23524043.9626264, 112732.609804463, 97113.2559126859, 92650.5509964457, 21754.0329134422,
18545.9510451899, 17400.147116058, 773.891092694523, 706.573570340739, 630.645540709723,
183.942849019903, 171.629368844713, 152.254429562862, 42.2969357239086, 38.7966286454521,
34.1282842565744, 3.42715947619453e-12, 1.00961942459492e-13, -8.35830657693904e-13
#>
#> Beginning fit attempt 127 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525746.322546, 28656975.1333636,
23524043.9626264, 112732.609804463, 97113.2559126859, 92650.5509964457, 21754.0329134422,
18545.9510451899, 17400.147116058, 773.891092694523, 706.573570340739, 630.645540709723,
183.942849019903, 171.629368844713, 152.254429562862, 42.2969357239086, 38.7966286454521,
34.1282842565744, 3.42715947619453e-12, 1.00961942459492e-13, -8.35830657693904e-13
#>
#> Beginning fit attempt 128 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 129 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 130 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 131 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 132 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 133 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 134 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 135 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 136 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 137 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 138 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 139 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525751.8683854, 28656972.4059467,
23524057.9628485, 112732.618917361, 97113.3046488819, 92650.6187207796, 21754.0221887457,
18545.9206648785, 17400.1860763095, 773.881027893061, 706.552308384809, 630.6468019626,
184.008096196825, 171.694115240039, 152.283994837887, 42.2651749693347, 38.8138993044394,
34.134918903602, 1.75683510683154e-12, 5.29405621139814e-15, -1.00140455710961e-12
#>
#> Beginning fit attempt 140 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 141 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 142 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 143 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 144 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 145 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 146 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 147 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 148 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 149 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 150 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 151 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 152 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 153 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 154 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 155 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```
#>
#> Beginning fit attempt 156 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 157 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 158 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 159 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 160 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 161 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 162 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 163 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 164 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```

#>
#> Beginning fit attempt 165 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 166 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 167 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 168 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 169 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 170 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 171 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525824.4249103, 28656960.0139556,
23524043.2044044, 112732.776868217, 97113.2505058265, 92650.5381370653, 21753.9896840343,
18545.979285633, 17400.1170409419, 773.897983197149, 706.533804080299, 630.647424410632,
183.952904884975, 171.699389470233, 152.273995180273, 42.235046861581, 38.8208778887828,
34.0590231503178, 3.30217144378483e-12, -5.95517732988607e-13, -6.80737353435262e-12
#>
#> Beginning fit attempt 172 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 173 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 174 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 175 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 176 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 177 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 178 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 179 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 180 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 181 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 182 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 183 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 184 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 185 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 186 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 187 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 188 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 189 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 190 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 191 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 192 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 193 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 194 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 195 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 196 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525831.1741763, 28657002.7266488,
23523979.8704591, 112732.724215078, 97113.2029132425, 92650.4619430966, 21753.9624116448,
18545.921493277, 17400.0068698712, 773.922234554448, 706.529067974894, 630.60969720586,
183.915754902126, 171.566526773972, 152.199896779095, 42.2510488619904, 38.7393383581733,
33.9927542113098, 3.82090373155987e-12, 1.5401199164485e-13, -7.07061433507933e-14
#>
#> Beginning fit attempt 197 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 198 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.4354139545
#> Not all eigenvalues of the Hessian are positive: 29525741.5339642, 28656972.0109425,
23524046.1745345, 112732.582525432, 97113.2742138555, 92650.5781424976, 21754.0459621325,
18545.9636610827, 17400.1872832754, 773.833701530407, 706.603437321813, 630.688144173448,
184.026543389899, 171.705959424138, 152.29691279206, 42.2683110020389, 38.8918111757867,
34.1563480565957, 3.14474134570872e-12, -2.86133549545263e-13, -1.02896070082719e-12

```

```

#>
#> Beginning fit attempt 199 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395451
#> Not all eigenvalues of the Hessian are positive: 29525741.7693858, 28656972.2522471,
23524046.1626191, 112732.579492853, 97113.3678277435, 92650.6273423501, 21754.089069786,
18545.9577972564, 17400.1856835241, 773.894278015611, 706.568712349569, 630.695951453011,
184.007761562563, 171.739143324648, 152.302844026996, 42.2565458094738, 38.8164665592115,
34.1250127151023, 8.25904933815301e-12, -3.95545204617269e-14, -1.8430399407436e-12
#>
#> Beginning fit attempt 200 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525741.7693858, 28656972.2522471,
23524046.1626191, 112732.579492853, 97113.3678277435, 92650.6273423501, 21754.089069786,
18545.9577972564, 17400.1856835241, 773.894278015611, 706.568712349569, 630.695951453011,
184.007761562563, 171.739143324648, 152.302844026996, 42.2565458094738, 38.8164665592115,
34.1250127151023, 8.25904933815301e-12, -3.95545204617269e-14, -1.8430399407436e-12
#>
#> Beginning fit attempt 201 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 202 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 203 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 204 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 205 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 206 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 207 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 208 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 209 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 210 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 211 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 212 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 213 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 214 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29524733.7299062, 28656987.9851392,
23524207.5520092, 112731.147566008, 97113.4646094426, 92649.1660944303, 21754.0150778646,
18545.4858659101, 17400.3343028243, 773.885034957433, 706.542503532659, 630.63825215592,
183.945873189636, 171.678949897057, 152.269593886429, 42.3072633867491, 38.7995335082934,
34.0958014378893, 7.60860070512899e-13, -5.69943948850246e-13, -2.30877773324413e-12

```

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#>
#> Beginning fit attempt 215 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 216 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 217 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 218 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 219 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525750.7566826, 28656994.2907945,
23524075.2580397, 112732.622751532, 97113.2695757451, 92650.6116153186, 21754.0009842985,
18545.8244224752, 17400.0906887066, 773.975314715987, 706.496043279381, 630.576546389481,
183.939869334077, 171.618443543373, 152.230442939558, 42.1871348485906, 38.7252219510707,
34.0376760436889, 1.52080441862262e-12, 3.09839110805163e-13, -2.37776152495974e-12
#>
#> Beginning fit attempt 220 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 221 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 222 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 223 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 224 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 225 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 226 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 227 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 228 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 229 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 230 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 231 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 232 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 233 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt worse than current best:  -2729.43538247011 vs -2729.43541395451
#>
#> Beginning fit attempt 234 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 235 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 236 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 237 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 238 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 239 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 240 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 241 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 242 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 243 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525751.991869, 28656988.0064896,
23524042.2005612, 112732.652139929, 97113.3260963123, 92650.5955219647, 21754.0730995487,
18545.9649570695, 17400.1859470466, 773.853809090404, 706.611492234298, 630.68957250811,
184.042135562432, 171.77099165759, 152.310456157964, 42.2654906560671, 38.8719866734935,
34.1301890194867, 7.09396779079199e-13, -5.12946675011745e-13, -4.63756426096899e-12
#>
#> Beginning fit attempt 244 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 245 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 246 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525774.5386673, 28656964.1200283,
23524035.778148, 112732.614087287, 97113.2613045519, 92650.6178590133, 21754.0449553655,
18545.9033729485, 17400.1802091857, 773.938764634894, 706.540581315421, 630.621969340266,
183.97834594505, 171.668489321586, 152.283538860197, 42.2141613834613, 38.8423357159428,
34.0812637722794, 1.33080805052271e-12, -6.96151282178192e-13, -1.27458939613433e-12
#>
#> Beginning fit attempt 247 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 248 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 249 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 250 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 251 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 252 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 253 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 254 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 255 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 256 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 257 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 258 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 259 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 260 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 261 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 262 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 263 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 264 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 265 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 266 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 267 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 268 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 269 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 270 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 271 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 272 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 273 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 274 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 275 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 276 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 277 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 278 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 279 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525742.2117513, 28656970.4481284,
23524055.2376324, 112732.620096055, 97113.2819154048, 92650.5130409775, 21754.0260211298,
18545.9604772978, 17400.1762297931, 773.864372466527, 706.578225645283, 630.669284638046,
184.017346744723, 171.729152353885, 152.351861135112, 42.2652912697349, 38.8263144869021,
34.1034110717124, 1.14235559780356e-11, 4.96808300761949e-13, -5.63004955105579e-13
#>
#> Beginning fit attempt 280 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 281 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525746.3568591, 28656954.8292574,
23524044.4189803, 112732.604451132, 97113.1888364194, 92650.4188790231, 21754.0146386279,
18545.950403144, 17400.1213496419, 773.985802279979, 706.505781968237, 630.607720401241,
183.914786358198, 171.597127172818, 152.264675769649, 42.2553545898838, 38.7568691966825,
34.0475051351686, 9.54085551891476e-13, 5.74046010786547e-13, -2.31638996867921e-12
#>
#> Beginning fit attempt 282 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 283 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 284 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 285 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 286 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 287 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 288 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 289 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 290 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 291 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 292 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 293 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 294 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 295 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 296 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 297 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 298 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 299 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 300 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 301 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 302 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 303 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 304 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 305 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 306 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 307 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 308 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 309 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 310 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 311 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 312 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 313 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 314 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 315 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 316 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 317 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 318 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 319 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 320 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 321 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 322 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 323 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 324 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 325 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 326 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525737.0795296, 28656970.4054775,
23524041.3420597, 112732.550077632, 97113.2049830929, 92650.4700486947, 21753.9216248042,
18545.9275175025, 17400.0823025622, 774.055465729746, 706.455627527996, 630.530388930902,
183.894792611255, 171.591614185559, 152.213173020703, 42.1502316249779, 38.7154211219937,
33.9658590839377, 4.12158188303099e-13, -5.86904759026257e-13, -9.85856124410913e-12
#>
#> Beginning fit attempt 327 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 328 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 329 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 330 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 331 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 332 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 333 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 334 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 335 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 336 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 337 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 338 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 339 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 340 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 341 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 342 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 343 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 344 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 345 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 346 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```



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#>
#> Beginning fit attempt 347 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 348 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 349 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 350 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 351 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 352 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 353 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 354 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 355 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

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#>
#> Beginning fit attempt 356 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 357 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 358 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 359 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 360 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 361 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 362 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 363 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 364 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

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#>
#> Beginning fit attempt 365 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 366 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 367 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 368 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 369 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 370 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 371 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 372 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 373 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

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#>
#> Beginning fit attempt 374 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 375 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 376 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 377 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 378 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 379 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 380 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 381 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 382 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 383 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 384 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 385 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 386 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 387 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 388 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 389 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 390 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 391 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 392 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 393 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 394 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 395 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 396 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 397 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 398 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 399 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 400 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 401 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 402 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 403 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 404 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 405 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 406 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 407 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 408 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 409 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 410 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 411 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 412 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 413 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 414 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525765.5095833, 28657004.140475,
23524050.0505109, 112732.677897995, 97113.2610093689, 92650.4498933727, 21753.9997286784,
18545.8795500564, 17400.0756712666, 773.931568028788, 706.51281506842, 630.586342621496,
183.954984720874, 171.618667757953, 152.221596188017, 42.1801031950814, 38.7576310239331,
34.0341631732602, 1.43031239254457e-12, 2.8753880827698e-13, -2.57316711388544e-12
#>
#> Beginning fit attempt 415 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 416 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 417 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 418 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 419 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 420 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 421 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 422 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 423 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 424 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 425 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 426 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 427 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 428 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 429 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 430 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 431 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 432 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 433 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 434 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 435 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 436 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 437 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 438 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 439 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 440 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525756.7221705, 28656970.1988952,
23524024.3276427, 112732.573962562, 97113.1388416502, 92650.4774646069, 21753.9106764132,
18545.8941425646, 17400.0395211656, 774.049965575099, 706.489246178818, 630.52559987982,
183.915271962443, 171.588861740743, 152.126692452668, 42.1234778665608, 38.7132684326707,
33.9602658828851, 1.06825672152926e-11, 2.62001881185577e-13, -1.0729101522842e-12
#>
#> Beginning fit attempt 441 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 442 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 443 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 444 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt worse than current best: -2729.43498710205 vs -2729.43541395451

```

```

#>
#> Beginning fit attempt 445 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 446 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 447 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 448 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 449 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 450 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 451 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 452 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 453 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 454 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 455 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 456 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 457 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 458 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 459 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 460 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 461 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 462 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 463 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 464 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 465 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 466 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 467 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 468 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 469 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 470 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 471 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 472 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 473 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 474 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 475 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 476 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 477 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 478 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 479 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 480 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 481 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 482 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 483 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 484 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 485 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525793.030722, 28656945.2166469,
23524018.6881056, 112732.644408466, 97113.0718236308, 92650.4422129532, 21753.9272564746,
18545.9225264444, 17400.120976315, 773.90889621243, 706.486838245247, 630.631300614795,
183.923502428864, 171.621798645054, 152.219733609079, 42.1991216238692, 38.7279875594134,
34.090067319404, 2.42321161539387e-12, -4.32081430081639e-13, -4.251766434317e-12
#>
#> Beginning fit attempt 486 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 487 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525768.5587753, 28656974.1294955,
23524034.6401341, 112732.658563858, 97113.1107924417, 92650.4910919403, 21753.9916321534,
18545.8882050401, 17400.10469203, 773.963163719472, 706.466142017792, 630.577252815351,
183.944316684291, 171.631229472969, 152.21544415175, 42.1388338397589, 38.7237914507731,
34.0531444793039, 8.1861428833524e-13, -1.66267434367612e-12, -4.74635732846556e-12
#>
#> Beginning fit attempt 488 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```



```

#>
#> Beginning fit attempt 489 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 490 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 491 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 492 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 493 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 494 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 495 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 496 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 497 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 498 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29526332.9148781, 28656804.4920063,
23523672.4362423, 112732.290287554, 97113.1509813993, 92651.5176995212, 21753.8598085234,
18546.3171572715, 17399.9823231498, 773.924147870564, 706.522865346828, 630.659409148052,
183.959000811078, 171.623504099002, 152.238669791392, 42.240835149264, 38.7562983003188,
34.0990205979465, 3.77597487364441e-12, 2.7419015004036e-12, -1.87359148359893e-12
#>
#> Beginning fit attempt 499 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 500 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 501 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 502 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 503 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 504 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 505 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 506 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 507 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 508 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 509 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 510 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 511 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 512 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 513 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 514 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 515 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 516 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 517 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 518 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 519 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 520 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 521 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 522 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 523 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 524 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 525 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 526 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 527 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 528 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 529 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 530 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 531 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 532 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 533 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 534 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 535 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 536 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 537 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 538 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 539 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 540 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 541 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 542 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 543 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 544 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 545 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 546 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 547 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 548 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 549 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 550 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 551 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 552 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 553 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 554 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 555 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 556 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 557 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 558 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 559 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 560 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 561 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 562 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 563 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 564 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 565 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 566 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 567 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 568 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 569 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 570 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 571 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 572 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 573 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 574 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 575 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 576 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 577 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 578 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

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#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 579 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 580 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 581 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 582 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525657.9642623, 28656965.7924573,
23524033.9163116, 112732.400407283, 97113.2358786839, 92650.323339169, 21754.0255489425,
18545.8865159407, 17400.1163408565, 773.949060687647, 706.545574997252, 630.617179577296,
183.946560021909, 171.665146219701, 152.245931315323, 42.2620605663137, 38.8081058072752,
34.0192082897962, 7.52023657235596e-12, 1.37328662405541e-12, -2.58208549652864e-13
#>
#> Beginning fit attempt 583 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 584 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 585 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 586 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```
#>
#> Beginning fit attempt 587 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 588 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 589 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 590 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 591 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 592 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 593 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 594 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 595 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```

#>
#> Beginning fit attempt 596 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 597 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 598 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 599 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 600 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525781.6300082, 28656806.8254491,
23524015.9407083, 112732.428004495, 97112.854592267, 92650.3612134227, 21753.8778944613,
18545.9217192143, 17400.023395977, 773.999753098595, 706.481584092715, 630.574446909665,
183.924104972588, 171.599056908294, 152.162591481546, 42.1590935725679, 38.684445433083,
34.0225317237062, 1.16012139740139e-11, 6.22800712843254e-13, -2.23156385107183e-12
#>
#> Beginning fit attempt 601 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 602 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 603 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 604 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 605 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 606 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525724.6251427, 28656933.331557,
23524030.4160646, 112732.488611952, 97113.1088278973, 92650.4580499976, 21753.9267771853,
18545.8840579008, 17400.0601373131, 774.05203926533, 706.471450689044, 630.562173279495,
183.861695023515, 171.574806299006, 152.230959818817, 42.1497727181909, 38.7426583762925,
33.9808541111143, 3.29338683156247e-12, 5.87096078962888e-13, -1.86832511780905e-14
#>
#> Beginning fit attempt 607 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525641.8367964, 28656941.7369511,
23524020.9547094, 112732.355114282, 97113.1920894402, 92650.3019761099, 21754.0219923311,
18545.8299686979, 17400.1322666559, 773.944299472804, 706.495544905399, 630.614328366943,
183.972912682236, 171.636610584239, 152.214266402857, 42.2089483308556, 38.7449539857897,
34.0867128394136, 3.16185676438964e-12, 1.95993641720663e-12, -3.1704652911518e-12
#>
#> Beginning fit attempt 608 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 609 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 610 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 611 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525750.0162153, 28656907.8888441,
23524029.7488018, 112732.442116104, 97113.0300160195, 92650.3689148407, 21753.9030665727,
18545.8177991623, 17400.0947526491, 774.093390104478, 706.426849815718, 630.538481958764,
183.849219793353, 171.479727332661, 152.123207349825, 42.1181454456815, 38.6336452200192,
33.94292014166, 1.3154116806923e-12, 1.24584098140441e-12, -1.50787331291923e-12

```

```
#>
#> Beginning fit attempt 612 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 613 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 614 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 615 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 616 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 617 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 618 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 619 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 620 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```

#>
#> Beginning fit attempt 621 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 622 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 623 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 624 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 625 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 626 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 627 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 628 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 629 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```



```

#>
#> Beginning fit attempt 630 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 631 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 632 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 633 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29526147.0323846, 28657324.5893512,
23523911.9567386, 112733.68799979, 97113.7775161339, 92650.6190004751, 21754.183751827,
18546.0722646696, 17399.984711767, 773.997611929477, 706.490153829225, 630.57062493751,
183.919241665533, 171.577100236176, 152.241436903031, 42.2108181257632, 38.7351513291181,
34.0415807769393, 1.53144315899873e-14, -9.30622653644721e-13, -9.7579318651405e-12
#>
#> Beginning fit attempt 634 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 635 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 636 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 637 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 638 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 639 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 640 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 641 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 642 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 643 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 644 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 645 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 646 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 647 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 648 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 649 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 650 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 651 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 652 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525762.7208793, 28657015.7610682,
23524045.5703803, 112732.663713024, 97113.3597825696, 92650.6505838424, 21754.0632038997,
18545.9707784704, 17400.1444686104, 773.904319595389, 706.551871312154, 630.613951885474,
183.983093713307, 171.719955410453, 152.278513832867, 42.2389238960178, 38.8174842308188,
34.0638962699659, -1.60568103886618e-13, -2.53964561850356e-12, -4.37235105889589e-12
#>
#> Beginning fit attempt 653 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 654 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 655 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 656 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525703.4669758, 28656953.5208926,
23524013.1603463, 112732.426884153, 97113.0872599953, 92650.2769142564, 21753.9652899129,
18545.8297148933, 17400.0897837972, 774.057193773763, 706.425318726869, 630.541807581287,
183.911746549395, 171.514091676022, 152.153450672412, 42.1371090051467, 38.6309173424258,
33.9836069290176, -1.77116071902096e-12, -3.55106095288003e-12, -7.27592337384721e-12
#>
#> Beginning fit attempt 657 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 658 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 659 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 660 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 661 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 662 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 663 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 664 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 665 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 666 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 667 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 668 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 669 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 670 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 671 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 672 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 673 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 674 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 675 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 676 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 677 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 678 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 679 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 680 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 681 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 682 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Solution found

#>
#> Solution found! Final fit=-2729.4354 (started at 84.166179) (683 attempt(s):
38 valid, 645 errors)
#> Start values from best fit:
#> -0.205071403557139,0.881043351471442,-0.376749871133636,-0.14702814499353,-0.54291735262718,0.85

#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22
#> -3.696566e-01  7.545085e-01 -4.056520e-01 -4.684229e-02 -3.662354e-01
#>      phi_32      phi_13      phi_23      phi_33      iota_1
#>  8.612712e-01  3.884815e-02 -7.476252e-02 -8.654204e-01 -1.894597e-03
#>      iota_2      iota_3      sigma_11      sigma_21      sigma_22
#> -5.936829e-03 -1.371638e-01  9.712854e-02  9.342169e-04  1.021726e-01
#>      sigma_31      sigma_32      sigma_33      theta_11      theta_22
#> -3.582120e-03 -2.662063e-03  1.005236e-01  2.225074e-308  2.225074e-308
#>      theta_33
#>  5.162869e-19
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5342417  0.6279737 -0.4345542  0.05334356 -0.1895535  0.8656381
#> [2,] -0.2050714  0.8810434 -0.3767499 -0.14702814 -0.5429174  0.8569043
#>      phi_13      phi_23      phi_33      iota_1      iota_2      iota_3
#> [1,] -0.04057725 -0.24885252 -0.7448652  0.2996878 -0.3594311 -0.3744349
#> [2,]  0.11827354  0.09932749 -0.9859757 -0.3034770  0.3475575  0.1001073
#>      sigma_11      sigma_21      sigma_22      sigma_31      sigma_32      sigma_33
#> [1,] 0.10016899  0.004029841  0.10757833 -0.0005085995 -0.002368603  0.09337776
#> [2,] 0.09408808 -0.002161407  0.09676685 -0.0066556398 -0.002955524  0.10766944
#>      theta_11      theta_22      theta_33
#> [1,] 2.225074e-308 2.225074e-308 2.225074e-308
#> [2,] 2.225074e-308 2.225074e-308 1.032574e-18
#> Test passed

#> Running CTVAR with 21 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2708.30348505956
#> OpenMx status code 6 not in list of acceptable status codes, (0,0)
#>
#> Beginning fit attempt 1 of at maximum 1000 extra tries

```

```

#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2708.30351491663
#>
#> Solution found

#>
#> Solution found! Final fit=-2708.3035 (started at -34.74447) (2 attempt(s): 2
valid, 0 errors)
#> Start values from best fit:
#> -0.534419334348582, 0.628131331060737, -0.434379868772381, 0.0535226979239515, -0.189690328536326, 0.0
#> Running CTVAR with 21 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395408
#> Not all eigenvalues of the Hessian are positive: 29525731.3709691, 28656941.6665995,
23524038.75803, 112732.512818651, 97113.1583594122, 92650.4872329502, 21753.9538374873,
18545.880465442, 17400.0853968873, 774.006941072053, 706.513901289327, 630.58430603677,
183.883824671069, 171.609932399739, 152.264194860876, 42.1713862749722, 38.7374849795337,
34.0012644921079, 4.66710918085317e-12, 2.45604048805256e-12, -3.6455604388177e-13
#>
#> Beginning fit attempt 1 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395419
#> Not all eigenvalues of the Hessian are positive: 29525732.5953028, 28656946.6567347,
23524039.139461, 112732.574479344, 97113.2003436482, 92650.5249647277, 21754.0660048187,
18545.9478062877, 17400.1700035568, 773.905472697991, 706.534129740608, 630.673024258784,
183.986575708468, 171.663549135515, 152.256957332565, 42.2782176204799, 38.754737843435,
34.1090180815891, 6.27307365483796e-12, 8.61872994123981e-14, -6.23182968630008e-13
#>
#> Beginning fit attempt 2 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525732.5953028, 28656946.6567347,
23524039.139461, 112732.574479344, 97113.2003436482, 92650.5249647277, 21754.0660048187,
18545.9478062877, 17400.1700035568, 773.905472697991, 706.534129740608, 630.673024258784,
183.986575708468, 171.663549135515, 152.256957332565, 42.2782176204799, 38.754737843435,
34.1090180815891, 6.27307365483796e-12, 8.61872994123981e-14, -6.23182968630008e-13
#>
#> Beginning fit attempt 3 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```



```

#>
#> Beginning fit attempt 4 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 5 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 6 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 7 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 8 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 9 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 10 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 11 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 12 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far:  -2729.43541395434

```

```

#> Not all eigenvalues of the Hessian are positive: 29525723.1371595, 28656939.4582327,
23524011.4713388, 112732.435137392, 97113.2054314986, 92650.5166308305, 21753.9848113452,
18545.952806949, 17400.1292526949, 773.995955900703, 706.496607144036, 630.643574903041,
183.974090313429, 171.544467612994, 152.242404510356, 42.1532703850826, 38.7197057708908,
34.0665564640914, 3.41956751963436e-12, -1.22488443678531e-12, -6.7548131687051e-12
#>
#> Beginning fit attempt 13 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395443
#> Not all eigenvalues of the Hessian are positive: 29525744.9310651, 28656969.0026955,
23524039.7540093, 112732.59941877, 97113.2731609006, 92650.5867257811, 21754.0328616798,
18545.9811618492, 17400.1660147817, 773.855884731208, 706.586460199971, 630.696014355672,
184.016809035835, 171.736757271833, 152.316147845506, 42.2848006082197, 38.8522195551886,
34.1344740714641, -1.67448238367098e-12, -2.94202925583614e-12, -4.47133035032912e-12
#>
#> Beginning fit attempt 14 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525744.9310651, 28656969.0026955,
23524039.7540093, 112732.59941877, 97113.2731609006, 92650.5867257811, 21754.0328616798,
18545.9811618492, 17400.1660147817, 773.855884731208, 706.586460199971, 630.696014355672,
184.016809035835, 171.736757271833, 152.316147845506, 42.2848006082197, 38.8522195551886,
34.1344740714641, -1.67448238367098e-12, -2.94202925583614e-12, -4.47133035032912e-12
#>
#> Beginning fit attempt 15 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 16 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 17 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 18 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 19 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 20 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 21 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 22 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 23 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525742.5096064, 28656893.6109245,
23523996.8464086, 112732.523060752, 97113.0596986976, 92650.521592976, 21753.9873427181,
18545.9526097226, 17400.1743031877, 773.875419673022, 706.570522589733, 630.677089569564,
184.006533856457, 171.73971013306, 152.328160060759, 42.2570669785937, 38.8223223112625,
34.1249481644929, 4.33245252911322e-12, -1.09236450403937e-14, -1.87948236140929e-12
#>
#> Beginning fit attempt 24 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 25 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 26 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 27 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 28 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 29 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 30 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 31 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525701.8588198, 28657042.7542142,
23524003.1605872, 112732.651642041, 97113.4374818671, 92650.027851914, 21754.0600201947,
18545.8362253553, 17400.0364622156, 774.065916725497, 706.433302417278, 630.558349231304,
183.918875835104, 171.575215726728, 152.081025946111, 42.1369166863641, 38.6669224104947,
33.9310618906205, 1.34414987153804e-12, 8.07556066110583e-13, -3.88187754130077e-12
#>
#> Beginning fit attempt 32 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 33 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 34 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 35 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 36 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 37 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 38 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 39 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 40 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 41 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 42 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 43 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 44 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 45 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 46 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 47 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 48 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 49 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 50 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 51 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 52 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 53 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 54 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 55 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 56 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 57 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 58 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 59 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 60 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 61 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 62 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 63 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 64 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 65 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 66 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 67 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 68 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 69 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 70 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 71 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 72 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```



```
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 73 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 74 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 75 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 76 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 77 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 78 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 79 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 80 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 81 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 82 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 83 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525812.8845162, 28657037.4151062,
23524086.0631572, 112732.829558976, 97113.4139613879, 92650.6179528849, 21754.0178612626,
18545.9699069993, 17400.1020707496, 773.975967230408, 706.490097703435, 630.579940803616,
183.948665368453, 171.625255562995, 152.229996885511, 42.1827077846494, 38.7215656729459,
34.0249549788202, 2.92966641709681e-12, -2.46217710659327e-12, -3.3807148167725e-12
#>
#> Beginning fit attempt 84 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 85 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 86 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 87 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 88 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 89 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 90 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 91 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 92 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29526531.6385926, 28657105.9205013,
23523427.1007259, 112733.834859565, 97112.59778503, 92650.1177950136, 21754.0334995976,
18546.2894817835, 17399.5976079149, 773.985401462145, 706.479924565566, 630.593448308099,
183.915366888855, 171.621186546778, 152.220195952056, 42.1807295241073, 38.7087466386348,
34.049722225286, 4.76814426541483e-13, -2.57063376570391e-13, -4.90977812156685e-12
#>
#> Beginning fit attempt 93 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 94 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 95 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 96 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 97 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 98 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#> Not all eigenvalues of the Hessian are positive: 29525742.3164512, 28656958.079108,
23524064.6297345, 112732.570460805, 97113.1994954518, 92650.5065396252, 21753.9963262272,
18545.8840038743, 17400.0940042006, 773.992786393698, 706.521511974969, 630.573913184156,
183.91877535542, 171.585622325907, 152.175342758328, 42.229367558729, 38.7923548296306,
34.039144647201, 2.67969517478185e-12, 1.03166050713447e-12, -8.26774427518033e-13
#>
#> Beginning fit attempt 99 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 100 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 101 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 102 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 103 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 104 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 105 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 106 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 107 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 108 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 109 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 110 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 111 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 112 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525776.0378284, 28656979.9333837,
23524058.6593836, 112732.681988226, 97113.3210208641, 92650.5932222915, 21754.0438783788,
18545.9955971895, 17400.1762780309, 773.920068600246, 706.576034775567, 630.626938044254,
183.97467918643, 171.666567629505, 152.333619829236, 42.262731274542, 38.8512580960134,
34.0880160788947, 1.87735050445997e-12, -1.10528894575747e-12, -1.68682971723848e-11
#>
#> Beginning fit attempt 113 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 114 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 115 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 116 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 117 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 118 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 119 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 120 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.43541395443
#> Not all eigenvalues of the Hessian are positive: 29525743.8883277, 28656985.8421554,
23524039.7117805, 112732.599522805, 97113.1816041675, 92650.417231711, 21753.9866481081,
18545.9027476057, 17400.0754759542, 773.967631921923, 706.490841966662, 630.620040041479,
183.948849050493, 171.576919430613, 152.170093777434, 42.179170702862, 38.7227586566485,
34.0318836259432, 5.11446370562455e-12, -1.48398419334492e-12, -1.88742969604405e-12
#>
#> Beginning fit attempt 121 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29525743.8883277, 28656985.8421554,
23524039.7117805, 112732.599522805, 97113.1816041675, 92650.417231711, 21753.9866481081,
18545.9027476057, 17400.0754759542, 773.967631921923, 706.490841966662, 630.620040041479,
183.948849050493, 171.576919430613, 152.170093777434, 42.179170702862, 38.7227586566485,
34.0318836259432, 5.11446370562455e-12, -1.48398419334492e-12, -1.88742969604405e-12
#>
#> Beginning fit attempt 122 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```
#>
#> Beginning fit attempt 123 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 124 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 125 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 126 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 127 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 128 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 129 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 130 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 131 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```

#>
#> Beginning fit attempt 132 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 133 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 134 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 135 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 136 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 137 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 138 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 139 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 140 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```



```
#>
#> Beginning fit attempt 141 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 142 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 143 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 144 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 145 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 146 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 147 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 148 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 149 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```
#>
#> Beginning fit attempt 150 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 151 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 152 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 153 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 154 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 155 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 156 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 157 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 158 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```
#>
#> Beginning fit attempt 159 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 160 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 161 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 162 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 163 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 164 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 165 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 166 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 167 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```

#>
#> Beginning fit attempt 168 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 169 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 170 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 171 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 172 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 173 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 174 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 175 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 176 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```
#>
#> Beginning fit attempt 177 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 178 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 179 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 180 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 181 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 182 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 183 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 184 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 185 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
```

```

#>
#> Beginning fit attempt 186 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 187 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 188 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 189 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 190 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 191 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 192 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 193 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 194 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 195 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 196 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt worse than current best:  -2729.43537647368 vs -2729.43541395443
#>
#> Beginning fit attempt 197 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 198 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 199 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 200 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 201 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 202 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 203 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 204 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 205 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 206 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 207 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 208 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 209 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 210 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 211 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 212 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```



```

#>
#> Beginning fit attempt 213 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29526168.9714266, 28658660.2568905,
23524026.8596567, 112736.891271484, 97114.9398819498, 92651.0185129123, 21754.801997835,
18546.3679310063, 17400.1960391934, 773.911631591113, 706.544531613653, 630.632482509442,
183.998332575966, 171.638738901392, 152.264754721726, 42.2217016375736, 38.7641128510543,
34.1105518106341, 3.05839842884776e-12, 1.40310739005179e-12, -2.28324839834134e-12
#>
#> Beginning fit attempt 214 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 215 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 216 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 217 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 218 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 219 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 220 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 221 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters

```

```

#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 222 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 223 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 224 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#> Not all eigenvalues of the Hessian are positive: 29526126.1696339, 28657612.098606,
23526147.8715272, 112733.719067114, 97113.776335642, 92651.4728487474, 21753.1931704104,
18545.5454249705, 17399.2865861556, 774.092934562783, 706.468295258801, 630.503654850427,
183.87418220749, 171.554866768811, 152.15246022274, 42.1234363817686, 38.6597738035247,
33.9603807658623, 9.91115905639497e-13, 1.67826355501864e-13, -1.01417567791675e-11
#>
#> Beginning fit attempt 225 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 226 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 227 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 228 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 229 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 230 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 231 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 232 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 233 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 234 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 235 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 236 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 237 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 238 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors

```

```

#>
#> Beginning fit attempt 239 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Fit attempt generated errors
#>
#> Beginning fit attempt 240 of at maximum 1000 extra tries
#> Running CTVAR with 21 parameters
#>
#> Lowest minimum so far: -2729.4354139545
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=-2729.4354 (started at -26.856599) (241 attempt(s):
18 valid, 223 errors)
#> Start values from best fit:
#> -0.205070955577798,0.881043902151242,-0.376750452761335,-0.147028618256776,-0.542917586707152,0.0
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22
#> -3.697451e-01  7.545876e-01 -4.055652e-01 -4.675296e-02 -3.663040e-01
#>      phi_32      phi_13      phi_23      phi_33      iota_1
#>  8.611731e-01  3.879459e-02 -7.468436e-02 -8.652835e-01  1.310759e-01
#>      iota_2      iota_3      sigma_11      sigma_21      sigma_22
#> -5.028924e-02  4.242171e-02  9.712916e-02  9.339782e-04  1.021734e-01
#>      sigma_31      sigma_32      sigma_33      theta_11      theta_22
#> -3.582371e-03 -2.663106e-03  1.005214e-01  2.080987e-19  9.312564e-20
#>      theta_33
#>  2.225074e-308
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5344193  0.6281313 -0.4343799  0.0535227 -0.1896903  0.8654418
#> [2,] -0.2050710  0.8810439 -0.3767505 -0.1470286 -0.5429176  0.8569045
#>      phi_13      phi_23      phi_33      iota_1      iota_2      iota_3
#> [1,] -0.04068446 -0.24869657 -0.7445914  0.0000000  0.0000000  0.0000000
#> [2,]  0.11827364  0.09932786 -0.9859756  0.2621518 -0.1005785  0.08484342
#>      sigma_11      sigma_21      sigma_22      sigma_31      sigma_32      sigma_33
#> [1,] 0.10017025  0.004029278  0.10757991 -0.0005091155 -0.002370743  0.0933734
#> [2,] 0.09408807 -0.002161322  0.09676684 -0.0066556268 -0.002955470  0.1076695
#>      theta_11      theta_22      theta_33
#> [1,] 2.225074e-308 2.225074e-308 2.225074e-308
#> [2,] 4.161974e-19  1.862513e-19 2.225074e-308
#> Test passed

```

```
#> test-fitCTVARm-fit-ct-var-id-m-sigma-full
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far: -2708.30352549539
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2708.3035 (started at -2583.5637) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.534241206420914,0.62797339469317,-0.434553823990626,0.0533435092912926,-0.189553489184932,0.8
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far: -2729.43541395449
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2729.4354 (started at -2584.9163) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.205071078209191,0.88104367367791,-0.376750228145059,-0.147028539743142,-0.542917489941515,0.8
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22
#> -0.3696561423  0.7545085342 -0.4056520261 -0.0468425152 -0.3662354896
#>      phi_32      phi_13      phi_23      phi_33      sigma_11
#>  0.8612711545  0.0388481598 -0.0747622926 -0.8654204220  0.0971285185
#>      sigma_21      sigma_22      sigma_31      sigma_32      sigma_33
#>  0.0009342611  0.1021725684 -0.0035821148 -0.0026620320  0.1005236058
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5342412  0.6279734 -0.4345538  0.05334351 -0.1895535  0.8656379
#> [2,] -0.2050711  0.8810437 -0.3767502 -0.14702854 -0.5429175  0.8569044
#>      phi_13      phi_23      phi_33      sigma_11      sigma_21      sigma_22
#> [1,] -0.04057728 -0.24885244 -0.7448651  0.10016898  0.004029849  0.10757830
#> [2,]  0.11827360  0.09932785 -0.9859757  0.09408806 -0.002161327  0.09676684
```

```

#>          sigma_31      sigma_32      sigma_33
#> [1,] -0.0005085985 -0.002368596 0.09337775
#> [2,] -0.0066556310 -0.002955468 0.10766946
#> Test passed

#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far:  -2708.30352549542
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=-2708.3035 (started at -2692.6342) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.534241439090794,0.627973836182731,-0.434554104324778,0.0533436206892379,-0.189553553245162,0.
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far:  -2729.43541395448
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=-2729.4354 (started at -2715.8485) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.205071165693674,0.881043783235328,-0.376750185855582,-0.147028678756531,-0.542917492518065,0.
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22
#> -0.3696563024 0.7545088097 -0.4056521451 -0.0468425290 -0.3662355229
#>      phi_32      phi_13      phi_23      phi_33      sigma_11
#> 0.8612712273 0.0388481828 -0.0747623322 -0.8654204659 0.0971285260
#>      sigma_21      sigma_22      sigma_31      sigma_32      sigma_33
#> 0.0009342544 0.1021725758 -0.0035821156 -0.0026620324 0.1005236009
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5342414 0.6279738 -0.4345541 0.05334362 -0.1895536 0.8656381

```

```
#> [2,] -0.2050712 0.8810438 -0.3767502 -0.14702868 -0.5429175 0.8569043
#>      phi_13      phi_23      phi_33      sigma_11      sigma_21      sigma_22
#> [1,] -0.04057732 -0.24885250 -0.7448653 0.10016898 0.004029840 0.10757833
#> [2,] 0.11827368 0.09932784 -0.9859756 0.09408807 -0.002161331 0.09676682
#>      sigma_31      sigma_32      sigma_33
#> [1,] -0.0005085965 -0.002368602 0.09337775
#> [2,] -0.0066556348 -0.002955463 0.10766945
#> Test passed
```

```
#> test-fitCTVARm-fit-ct-var-id-mx-theta-diag
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far: -2707.31197420096
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2707.312 (started at 59.80475) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> -0.545403553270473,0.655780191333924,-0.431937927519135,0.068469691036237,-0.195215180793901,0.8
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far: -2726.62588111855
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2726.6259 (started at 84.166179) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> -0.213899106730518,0.861185478973193,-0.405561987990989,-0.131907351800459,-0.523808434338325,0.
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22
#> -3.796513e-01 7.584828e-01 -4.187500e-01 -3.171883e-02 -3.595118e-01
#>      phi_32      phi_13      phi_23      phi_33      sigma_11
#> 8.622209e-01 2.195191e-02 -8.616802e-02 -8.662899e-01 9.721588e-02
#>      sigma_22      sigma_33      theta_11      theta_22      theta_33
```

```
#> 1.021101e-01 1.005314e-01 2.225074e-308 1.424465e-12 2.395002e-13
#>
#> Estimated paramaters per individual.
#>      phi_11  phi_21  phi_31  phi_12  phi_22  phi_32
#> [1,] -0.5454036 0.6557802 -0.4319379 0.06846969 -0.1952152 0.8591466
#> [2,] -0.2138991 0.8611855 -0.4055620 -0.13190735 -0.5238084 0.8652951
#>      phi_13  phi_23  phi_33  sigma_11  sigma_22  sigma_33
#> [1,] -0.05179217 -0.25075666 -0.7402836 0.10027194 0.10763471 0.09333229
#> [2,] 0.09569600 0.07842062 -0.9922962 0.09415982 0.09658557 0.10773048
#>      theta_11  theta_22  theta_33
#> [1,] 2.225074e-308 2.848888e-12 4.787923e-13
#> [2,] 2.225074e-308 4.055903e-17 2.080635e-16
#> Test passed
```

```
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far: -2707.31197426421
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2707.312 (started at -34.74447) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> -0.545411047455776,0.655791769968899,-0.431918087958712,0.0684714732476686,-0.195223148449835,0.8
#> Running CTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 15 parameters
#>
#> Lowest minimum so far: -2726.62588111983
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=-2726.6259 (started at -26.856599) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.213900157034642,0.861186935515007,-0.405561579767654,-0.131907487288541,-0.523808807245147,0.8
#>
#> Means of the estimated paramaters per individual.
#>      phi_11  phi_21  phi_31  phi_12  phi_22
```



```

#> -3.796556e-01  7.584894e-01 -4.187398e-01 -3.171801e-02 -3.595160e-01
#>      phi_32      phi_13      phi_23      phi_33      sigma_11
#>  8.622161e-01  2.195551e-02 -8.616503e-02 -8.662912e-01  9.721582e-02
#>      sigma_22      sigma_33      theta_11      theta_22      theta_33
#>  1.021101e-01  1.005314e-01  1.583135e-17  1.049599e-17  4.394859e-18
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5454110  0.6557918 -0.4319181  0.06847147 -0.1952231  0.8591365
#> [2,] -0.2139002  0.8611869 -0.4055616 -0.13190749 -0.5238088  0.8652957
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#> [1,] -0.05178742 -0.25075041 -0.7402854  0.10027177  0.1076347  0.09333225
#> [2,]  0.09569844  0.07842035 -0.9922970  0.09415987  0.0965856  0.10773052
#>      theta_11      theta_22      theta_33
#> [1,] 8.404687e-20 2.225074e-308 2.225074e-308
#> [2,] 3.157865e-17 2.099199e-17 8.789718e-18
#> Test passed

#> test-fitCTVARm-fit-ct-var-id-mx-theta-null
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far:  -2707.31197426421
#>
#> Solution found

```

```

#>
#> Solution found!  Final fit=-2707.312 (started at -2583.5637)  (1 attempt(s):  1
valid, 0 errors)
#> Start values from best fit:
#> -0.545410808015616,0.655791704057053,-0.4319181053049,0.0684713570989829,-0.1952231790709,0.8591365
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far:  -2726.62588111983
#>
#> Solution found

```

```

#>
#> Solution found!  Final fit=-2726.6259 (started at -2584.9163)  (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:

```

```

#> -0.213900151770005,0.861186849501166,-0.405561461480421,-0.131907517647472,-0.523808720935904,0.8
#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> -0.37965548  0.75848928 -0.41873978 -0.03171808 -0.35951595  0.86221607
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#>  0.02195558 -0.08616503 -0.86629112  0.09721581  0.10211013  0.10053139
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5454108  0.6557917 -0.4319181  0.06847136 -0.1952232  0.8591364
#> [2,] -0.2139002  0.8611868 -0.4055615 -0.13190752 -0.5238087  0.8652957
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#> [1,] -0.05178730 -0.25075038 -0.7402852  0.10027176  0.10763468  0.09333226
#> [2,]  0.09569846  0.07842031 -0.9922970  0.09415987  0.09658558  0.10773053
#> Test passed

#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far:  -2707.31197426421
#>
#> Solution found

#>
#> Solution found! Final fit=-2707.312 (started at -2692.6342) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> -0.545410822968464,0.655791720204795,-0.431918099282865,0.0684713331800128,-0.195223149243982,0.8
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#> Lowest minimum so far:  -2726.62588111983
#>
#> Solution found

#>
#> Solution found! Final fit=-2726.6259 (started at -2715.8485) (1 attempt(s):
1 valid, 0 errors)
#> Start values from best fit:
#> -0.213900127082883,0.861186936784289,-0.405561515713572,-0.131907503993629,-0.523808771434401,0.8

```

```

#>
#> Means of the estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> -0.37965548  0.75848933 -0.41873981 -0.03171809 -0.35951596  0.86221611
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#>  0.02195557 -0.08616504 -0.86629114  0.09721581  0.10211014  0.10053139
#>
#> Estimated paramaters per individual.
#>      phi_11      phi_21      phi_31      phi_12      phi_22      phi_32
#> [1,] -0.5454108  0.6557917 -0.4319181  0.06847133 -0.1952231  0.8591364
#> [2,] -0.2139001  0.8611869 -0.4055615 -0.13190750 -0.5238088  0.8652958
#>      phi_13      phi_23      phi_33      sigma_11      sigma_22      sigma_33
#> [1,] -0.05178729 -0.25075041 -0.7402852  0.10027176  0.10763469  0.09333226
#> [2,]  0.09569843  0.07842032 -0.9922971  0.09415987  0.09658559  0.10773052
#> Test passed

#> test-fitCTVARMx-fit-ct-var-mx-theta-null
#> Error in mxFitFunctionMultigroup(paste0("CTVAR", "_", ids)): could not find function
"mxFitFunctionMultigroup"

```

Environment

```
ls()  
#> [1] "root"
```

Class

```
#> [[1]]  
#> [1] "root_criterion"
```

References

R Core Team. (2024). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. <https://www.R-project.org/>