Cookie Clicker v2.058
Late game Combo guide

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Some information inherited from old endgame combo guide by Taru
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Chapter 1: Introduction

Please read this chapter fully before reading anything else.

Prerequisite information

Minimum required background information:

- **If there are any abbreviations or terms you do not know, check either the "Glossary" section of this document or check this doc, if the glossary does not have its description.**
- This guide assumes a save somewhat close to late game (which defined as all heavenly upgrades), with at least **10 novemdecillion cookies baked all time** (v2.058).
    - **For other, smaller combos to help you get to this point, check this guide.**
- This guide assumes that you **do not** save scum and **do not** use RNG prediction tools, such as the FtHoF Planner. However, you can still follow the guide and do perfectly fine if you do use either, it's just that far more efficient options are available.
    - **Savescumming** is the act of returning to an earlier state of the save to gain an advantage. For example, players might reload the game to go back to what it was a few seconds before.
    - **FtHoF Planner** is a tool to predict the outcome of the Force the Hand of Fate spell.
- **Tip**: This guide is **not linear**. Instead of reading it from top to bottom, you should broadly review each chapter and select specific sections to read further. You can navigate to specific sections via the Table of Contents (also called Document tabs) in this Google doc (to the left of the page on PC).
- Optional additional resources:
    - Unlocking the plants used: https://tinyurl.com/CookieGarden
    - Basic combo guide: https://tinyurl.com/CookieCombos
    - Optimal purchases calculator: https://coderpatsy.bitbucket.io/cookies/cookies.html

Background: what are combos?

Read this section if you are new to comboing.

In short, comboing is combining multiple golden cookie buffs and other temporary multipliers at once to produce massive amounts of cookies quickly. Actively playing and going for combos is the fastest way to progress, and is basically the only way to continue further in the late game.

Each multiplier stacks multiplicatively with other buffs. Multipliers stack up quickly and this exponential scaling allows for producing months or years of production (compared to idling) in a few seconds, even in small combos. All combos in this guide produce over **1 million** years of raw CpS; the last combo in this guide produces over **200 billion years** (equivalent to **15x** the age of the universe) of raw CpS in the best case. Note that you do not need to do every combo in this guide to get every achievement.

Later in the guide you might see "Godzamok" mentioned. Godzamok is a spirit in the Pantheon (temple) minigame. While slotted, whenever you sell buildings, it adds a 10-seconds buff buffing click power by +1% per building sold. It has two quirks:

- It stacks additively with itself but multiplicatively with every other buff, and the buff's strength scales with amount of buildings sold with no upper cap.
- If you sell buildings while the buff is already ongoing, the duration does not reset but the multiplier increases silently: the tooltip does not update to match the increased multiplier, but the multiplier has already increased and can be reflected in the increased amount of cookies per click.

You can then selectively sell low-production buildings to gain a boost far greater than the loss in production from selling buildings. Utilization of this spirit is detailed in the "Godzamok usage" section.

This https://tinyurl.com/CookieCombos is a comprehensive guide for smaller combos. It may help you to read this for more context if you haven't already, but this is optional.

Roadmap

Late game combos are unlike earlygame combos, due to requiring **scrying**; this means that you would ascend each time after attempting the target combo, regardless of whether or not you have actually achieved the combo.

In each combo attempt:

1. **Ascend scry** the desired buff. Details in the **Scrying** section.
2. **Progress** to get cookies and upgrades for the upcoming combos. Details in the **Preparation** section.
3. **Setup combo** using the garden setup (or not). Details in the **Setup combo** section.

4. **Execute the actual combo**. You should choose a combo in the list to do before you do anything; details in the **Execution** section.
5. If you need to do the combo again, go back to step 1.

Practicing combos

CCCEM is a mod that enables you to practice combos quickly and effectively. **Go to https://cursedsliver.github.io/CCCEM to practice.**
If you use steam, use the mod https://steamcommunity.com/sharedfiles/filedetails/?id=3789272794. Note that the mod causing steam achievements to be unfairly gotten has been reported. Check this by loading a setting that contains at least one achievement you don't have (most likely "100% consistency"); if you get any steam achievements, please quit ASAP and contact @cursedsliver on discord.
Alternatively, load the mod using the function javascript:(function(){Game.LoadMod("https://cursedsliver.github.io/CCCEM/cccem.js");})(), which can be either inputted into the browser console or inputted into a bookmarklet. **It will not affect your main save.**

You set up your save according to the combo that you'll do, using the presets section of the interface accessible by top left of the game. Click "Try again" in the interface to reset your save and attempt the combo again. Try to reach at least 75% score (adjusted for 10 clicks per second) for your combo before attempting it for real.

Practice is important. All the top players practice regularly to ensure their execution is fast and precise under the immense pressure that you will face when doing the actual combo, and they can all consistently hit scores higher than 100%. Especially for the later combos, if you don't know every step by heart, you will not have enough time to look up any of the numerous steps you need to smoothly chain together, when doing it for real. Whether you fail in CCCEM, or after your hours of hard work scrying and meticulously setting up, is up to you.

When in doubt, practice. Practice. Practice. Practice.

Chapter 2: Instruction

This section contains information regarding aspects of combo preparation.

Scrying

Simply put, scrying is the act of predicting the next FtHoF outcome. For example, if you "scry a Click frenzy", it means that the next time you cast FtHoF, you will **always** get Click frenzy (if all the assumptions at that time hold true, see below). Optional: more information can be found here.

There are two types of scrying applicable to the combos detailed in this guide. **Level 2 scrying**, and **level 10 scrying**, with differing advantages and disadvantages described below. **All scrying will be done by ascending repeatedly** to regain magic for GFD casts.

Scrying is not permanent. For a scrying to continue working, the following assumptions must be true:

- If you scried the buff while there are **no** ongoing seasons, or that the current season is Christmas, the current season must be **no season** or Christmas, or that you have changed the season to no season or Christmas. (switching to other seasons before casting the scried buff is fine, as long as you swap back when casting the scried buff)
- If you scried the buff during any season **other than** Christmas, you must be in or have switched to any season **other than** Christmas at the time of casting the scried buff.
- You must not have casted any spells before casting the scried buff.
- You must not have ascended or wiped save before casting the scried buff.

IMPORTANT: After achieving the scry, you CANNOT CAST ANY SPELLS, including FtHoF and non-FtHoF spells, until instructed to do so during the final execution. Failure to follow this rule will result in a loss of your scry, and you will have to **restart from square one.**

Level 2 scrying

Level 2 scrying is done with level 2 Wizard towers. The steps include:

1. Reincarnate
2. Buy "Heavenly chip secrets"
3. Buy 1 Wizard tower
4. Click on "Open Grimoire"
5. Click GFD once.
    a. If it gives FtHoF, wait for it and click it to see the result.
    b. If it gives ST (RA is impossible), wait for it to cast the spell (it takes 1 second), you know when you suddenly gain magic as it refunds the cast. Click GFD again and repeat.
    c. If neither, ascend ASAP.

6. Go back to step 1.

IF GFD chooses FtHoF to cast, and if you cast FtHoF next, the outcome will be the same for both cases. An exception is if you are trying to scry an Elder frenzy, in which case see Confirmation section.

Advantages:

- A lower level enables more advanced Grimoire execution routes, resulting in increased probability of CF and BS during the actual combo
- Can go to level 10 if needed, but not the other way around.
- Does not require many sugar lumps.
- **More suitable for going for truly massive combos, notably combos stronger than Grail (the largest combo listed in this guide). Is also the safer option due to being able to go to level 10 later.**

Level 10 scrying

Level 10 scrying is done with level 10 Wizard towers, and the steps are the same as level 2, except you cast **2 GFDs consecutively** instead of just once.

To be exact, on step 5:

- Click GFD twice in a row (within 1 second of one another). Check for cases below, if multiple cases are satisfied, the first (highest in the list) point to meet the criteria has the highest priority.
    - If either gives FtHoF, wait for it and click it to see the result, unless the first cast is SE, in which case cast again.
    - If either gives SE, cast GFD a third time quickly (don't wait!). If both gives SE or it is ST/RA then SE, continue with a double cast instead.
    - If either ST or RA, wait for it to cast the spell which takes one second; you know when you suddenly gain magic as it refunds the cast. If you got one ST/RA cast GFD again once, if both casts were ST/RA cast GFD again twice.
    - If none of the above apply, ascend ASAP.

Preconfirming:

- Preconfirming is an advanced variant of Level 10 scrying for scrying Elder frenzy (and other wrath cookie-based buffs) that significantly speeds up the process by more than **2x**. Details can be found here.

Advantages:

- Increased CpS of approx. +3%.
- Significantly faster scrying, especially for EFs with preconfirming, thus resulting in more combo attempts done overall.
- Required for 100% achievement completion.

- **More suitable for attempting hard but not super ludicrous combos thanks to the increased attempt speeds, but is risky as you cannot go back to level 2.**

EF Confirm

This section is only applicable toward people trying to get an EF scry (for the biggest combo in this guide only).

When you get the scry, there is a chance that the scry is actually **unconfirmed**, meaning that it cannot be used in the actual combo as FtHoF will not backfire. The probability of **confirming** (determining that it is able to be used) is exactly 33.3% per EF scry. More information.

To check it, perform **RA confirm**. Cast Resurrect Abomination **outside of the grandmapocalypse**. If you did it correctly and you had enough magic to afford it, one of two things will pop up:

- **"Unable to spawn a wrinkler!"** -> the EF is **unconfirmed**. Ascend and start scrying again.
- **"Backfire! But no wrinkler was harmed."** -> the EF is **confirmed**. Stay in the ascension and do the rest of the preparation.

This should not use any magic. If you found your magic to be consumed, your scry is gone and need to restart.

If you find that it is unconfirmed, do **RA confirm** a second time with SI slotted. Then, do it again with both SI and RB slotted. If it is still confirmed, you may proceed normally. However, IF

- It became confirmed after **SI** was slotted: slot SI for the first cast of the Grimoire route.
- It **only** became confirmed after **SI + RB** was unslotted: slot SI + RB for the first cast of the Grimoire route.

Preparation

After achieving the scry, progress normally. Some tips and tricks to progress faster:

- The moment after you get the scry, get Krumblor, sell all buildings and buy garden drops. Pet the dragon and buy the drop.
    - If you will use a garden setup that has nursetulips, plant them now with all buildings sold except for a farm. More information available in the Stacking buffs section.
- Don't immediately slot Godzamok, so you can spam the Dragon Orbs aura.
- It's fine to do a very small combo before the setup combo, this can be just CF/DF with or without F. **Casting any spells will delete your scry, so don't do it until the target combo**.
    - To do this, use Dragonflight + Arcane aura when clicking natural GCs, slot before clicking, unslot after clicking. Swap Godzamok in after getting the buffs if you are Orb spamming.
    - This is generally not super important but can be quite convenient for planting seeds if your combo is strong. If you don't get it however, you can also plant seeds by selling your buildings to lower costs.
- If you are attempting a rare combo (Grail), vault Get lucky until after you complete Easter.

- Do not click the “Today is your lucky day!” fortune messages, click all other fortunes. Don’t wait on any fortunes to start comboing either, as you should already have Fortune #103 permaslotted, but you would want as many fortunes as possible.
- Speedrun grandmapocalypse.
- Remember to pet the dragon. A drop is available for each quarter of any hour.
- Have good permaslots. Guide.

Seasonals

You can follow the below seasonal route to get seasonals faster. This is optional but important for efficiency.

Do seasonals in order of Valentines -> Christmas (Santa only) -> Easter -> Halloween -> Christmas (reindeers) -> Halloween/Easter for comboing. **For all non-trivial seasons**, always use Mind over Matter. If you have no aura slots to spare, slot it in when doing the things that are boosted by it, then unslot it immediately afterwards.

1. Valentines: buy the heart upgrades ASAP.
2. First Christmas: wait for the “A festive hat” upgrade to appear, buy it, spam level the santa to get everything. Start spamming Orbs now and click reindeers on the side, and when you get a storm: switch to Easter, open a menu (recommend the aura changing menu), reduce the window size to a minimum but don’t minimize the window to have all the storm drops spawn at the same place.
3. Now Easter, if you haven’t gotten all relevant eggs yet, still use Orbs during the grandmapocalypse to spam wrath cookies for cookie storms, as they have an increased chance for them. You need all common eggs (ones that give +1% CpS), but **not all rare eggs**; go next after you get Golden goose egg, Cookie egg, and preferably Chocolate egg. **DO NOT purchase chocolate egg**; vault it instead, you’ll be buying it after the final combo.
    a. If you want to optimize this further, the best way is to go Halloween after a full ring of wrinklers, pop them all, and go Christmas first, doing the undone seasonals after all reindeer cookies. If you don’t have time to do it before your tulips grow up, don’t do it.
4. For Halloween, equip Dragon Guts and spam kill wrinklers. Ones that haven’t eaten any cookies won’t drop any cookies.
5. After you get everything else, go back to Christmas to complete reindeer drops. If your next combo is ready, stay in this season and keep clicking reindeers until done.
6. After all seasonals, if you are attempting the combo go Halloween if scry was not done during a natural Valentine’s or Easter, go Easter if otherwise. If you are not attempting the combo, it’s fine to stay in no seasons.

Setup combo

A setup combo is a combo used to gain enough cookies for planting and purchases during the actual combo. It is necessary for all combos detailed in this guide to be able to plant the

whiskerblooms at the start of the combo, and is also helpful to purchase additional upgrades before the combo.

A setup combo commonly consists of:

- Frenzy and Dragon harvest, or a Building special
- Click frenzy or Dragonflight

For example, a good setup combo could be F + DH + CF, but also BS + DF, F + BS + CF, or even (if you can get it) CF + DF.
If you have enough prestige (such as post quattuorvigintillions CBAT), it may be more time efficient to do setup with only one CpS buff.

Standard method

Start going for it the moment you set up the garden. Do seasonal upgrades as much as possible before.

Garden: Nursetulip + Gclover garden as detailed in the garden setups section below.
Auras: Reaper of fields + Arcane aura
Season: Whatever season is needed for the remaining seasonals, or if all are done, Business day
Pantheon: (nothing/Godzamok) - Selebrak - Muridal

CCCEM Practice tip

- ❖ Use the "Setup combo" preset in the presets section to practice setup combos.
- ❖ Adjust the buff parameters to practice for a variety of scenarios, such as F + DH, BS, and so on; can also adjust natural spawn timer and outcome (DF or CF)

1. Click golden cookies until a second CpS buff is gotten on top of the first.
2. While you have two CpS buffs active, replace Reaper of Fields with Dragonflight.
3. If you don't get the combo before one of the buffs dies, switch the auras back.
4. If you do:
    a. Freeze garden (to save the CpS penalty from tulips)
    b. Slot CpS auras
    c. Mute the Garden and Stock market
    d. Slot Godzamok in diamond, if not slotted already
    e. Trigger loan 2, only if you know that the set of buffs might not give enough. As a generalized rule, use the loan if you don't get a F + BS + CF/DF or better, or if you already have 40 minutes to spare before the actual combo begins
    f. Turn on Golden switch, if able, if not click the big cookie until you are able to afford it
    g. Click a few times, click buy all upgrades
    h. Sell buildings. Check out Godzamok usage section
    i. If needed, mokal swap. This step can also replace the loans if you have lots of worship swaps to spare.

    i. If you are willing to practice more, you can try rebuying after the sell and not swapping, and selling again with or without mokal swap.
j. Click the big cookie; can buy all upgrades shortly into clicking to further boost gains if you don't have much prestige yet

Dragon Orbs rushing

It is possible to go for setup combos before your Gclovers are mature using Dragon Orbs. If you do this, you must not have Godzamok slotted. You may "jail" a GC spawn from a Cookie chain by turning on Golden switch during a chain and killing the chains with Dragon Orbs, resulting in a natural GC spawning almost immediately after the golden switch is turned off due to the decreased spawn timer from the chain being saved in the switch. You may also plant some golden clovers early to help with spawn rates.

1. If you have a jailed GC, click GCs with Reaper of Fields + Dragonflight auras and release the GC by turning off the Golden switch when you get either BS, CF, and DF for an early shot at the combo. If you don't get it, or if you don't have a GC jailed, go to the next step.
2. Roughly predict when the next natural GC will spawn, and spawn Dragon Orbs as close as possible before it spawns. If you have a buff active that will overlap the spawning, use the Golden switch to delay the nat until the buff disappears. From this point on, all Dragon Orbs activations are assumed to be done with aura swapping such that it does not displace any aura slots.
3. Slot Dragonflight for the next GC only, replacing Arcane aura.
4. Click the natural GC. If it is not a usable buff, return to step 1 and let the DO GC disappear. If you get a usable buff (F or DH), go to the next step; if you get a strong buff (BS, CF, or DF), click the DO GC immediately, then go to step 7 if you get the right buffs; make sure to slot DF before clicking it if it is a BS.
5. Wait for the DO GC to almost disappear, then click it with Epoch Manipulator instead of Arcane Aura. If you get another CpS buff (both DH and BS should work, unless your initial GC spawn time prediction is very off) from it, slot Dragonflight in the typical slot for the next GC.
6. Click the next natural GC. If you don't have enough buffs, return to step 1.
7. Execute the combo directed in step 4 of the standard method.

Additional tips

Having screen reader mode on allows most browsers to highlight building buy buttons with a click, enabling continuous purchases or sells by holding down enter. You can also press tab to move the highlight to the next building, or press shift + tab to go to the previous building.

Turn off Fancy Graphics to increase GC visibility.

Cyclius may be used in Jade instead of Muridal during 1:02 AM to 10:58 AM (UTC) for a bigger boost. Cyclius is better than Holobore in Ruby at 1:30 AM to 4:30 AM and 1:30 PM to 4:30 PM (UTC). This is a microoptimization, many people don't bother with it.

Sugar Frenzy is generally worth for any combos that provides around a hundred thousand years of cps or more, and more than doubles your total prestige (in other words, any of the combos in the Instructions section is worth using Sugar Frenzy on, but not the setup combo).

Using Arcane Aura instead of Epoch Manipulator would result in slightly faster execution and getting the buffs needed as a tradeoff for slightly harder execution.

You may use business day and switch to halloween/easter when you get DH if the season switching cost allows.

Caramel sugar lumps give another lump refill, so you can use that to get more GCs from the grimoire.

Stacking buffs

Now, you need to stack buffs for the upcoming final combo of the ascension. Typically, you'd want **F + DH + BS**. However, if you really know what you are doing, you can also execute with a **F + 2BS**, but requires specialized setup and extremely good execution, not recommended for beginners.

Golden clovers

This is typically considered the best way to stack the required buffs. Start by setting up your garden like so, orientation does not matter:



Most plants need to be mature and **you need to be on clay**.
In addition:

- Have vomitrax in diamond

- Be in Valentine's (for the selebrak boost),

Once you have at least +**160% GC frequency** from the garden, you may proceed (though the max is 192.08%). If the clovers or tulips die and leave you with less, you need to stop and wait for them to grow again. Each nursetulip generation supports two golden clover generations.

Click naturally spawning golden cookies, which should be spawning less than a minute apart. You will soon get a self-sustaining permanent Frenzy, leaving DH and BS to be gotten.

Use **Epoch Manipulator + Reaper of Fields** as your dragon auras. You need to get **DH first**, getting BS then DH is not usable. The order **DH -> BS** is best, but if you have a high GC frequency at the time, **DH -> Trash -> BS** is also ok (if you have somewhere around half of your DH remaining); routes involving ST exist for low DH duration. Note that DHs stack with themselves time-wise, so if you get a DH when there already is one ongoing, you could allow more chances at the combo than normal. Once you get all the required buffs, execute the combo.

If you are going for a **F + 2BS**, you should only execute if you have maximum GC frequency (BS approximately half the amount of time left), and to gain time you will need to cast at least **3ST** for your Grimoire route. For higher tower levels like level 10, a sacrifice of 1 FtHoF will be required.

CCCEM Practice tip

- ❖ You can adjust the buff settings to have a lower duration. Adjust "Max time", "Time", and "Power", cycle buff to the buff you want, then click "Add [buff]". You can also take a snapshot by manually setting up the buffs.

Dragon Orbs

Dragon Orbs is a suitable replacement if your garden level is too low for F+DH+BS entirely from naturals. This is also why the garden is different. When using this strategy, no naturals can spawn within the BS unless it's from a "lucky day" fortune, making it not a viable strategy for any combos that require a natural (aka, grail). It will also result in slightly reduced chance for combo success. Steps 1-6 below show what to do in order to stack buffs.

Pantheon: Vomitrax+selebrak+muridal with 3/3 swaps (initial Godzamok in diamond will not work due to it preventing Dragon Orbs from working)
Krumblor setup: Dragon Orbs, Reaper of Fields
Garden setup: Full mature whiskerblooms or alternating rows of whiskerblooms and nursetulips, garden initially frozen
Season: Christmas (or Easter, if you did the scrying in Easter/Valentines)

1. **Spawn** a GC via Dragon Orbs shortly before a natural GC will spawn
2. **Change** auras to Epoch Manipulator and Reaper of Fields

3. When the natural GC spawns, **click it** and hope for **Frenzy** or **Dragon harvest**. If it is, **wait**. If not, let the orbed GC despawn and go back to step 1.
4. **Wait** until the orbed GC is about to despawn
5. **Click** the orbed GC and hope it's **Frenzy** or **Dragon harvest** (the buff that you don't have yet). If not, go back to step 1
6. **Wait** for the next natural GC to spawn, then hope it's **Building special**. If not, go back to step 1
7. **Unfreeze garden**. If you have tulips, harvest them all with Ctrl + Shift click, and replant with baby whiskerblooms. (DO NOT PRESS HARVEST ALL AFTERWARD)

Past this step, continue the execution as stated in the execution instruction but ignore all steps that wait for natural golden cookies.

CCCEM Practice tip

- Change the garden to be full whiskerblooms in the minigame options category.
- Change starting auras in the game options category.
- You can also adjust the buff settings to have a lower duration. Adjust "Max time", "Time", and "Power", cycle buff to the buff you want, then click "Add [buff]". You can also take a snapshot by manually setting up the buffs.

Chapter 3: Information

This section contains various details about performing large combos. This section functions mostly as a phonebook for looking stuff up in the Execution section: you do not have to read this section in its entirety, and you may refer back to it whenever needed.

Grimoire execution choices

For advanced strategies, only level 2 and 10 variants have been made because these 2 are the best level counts, where level 2 opens up new strategies and level 10 gives more CpS overall due to the level 10 achievement, Sugar crystal cookies bonus, and speeds up comboing by having significantly faster scrying.

CCCEM Practice tip

- If unfamiliar with a given route, use the P For Pause mod (load via interface on web, preloaded on Steam) to slow down time, giving you more time to figure out the route and integrate it with your practice.
- You can also use the mod to slow down the game and help learn any other parts of the combo.

Quadcasting

Quadcasting usually refers to consecutively casting FTHOF four times while only using 1 sugar lump, through selling towers after casting to reduce FTHOF's mana cost. This is a reliable, simple option for executing combos.

- **Look at the column with your tower level.**
- Blue numbers are wizard tower counts. Before you begin the combo, have the amount of towers specified in step 0 and with full magic.
- If you scried the effect in a non-Christmas season, you also need to swap to a non-Christmas season before casting.
- If you scried the effect in Christmas or no season, you need to switch to those before casting.

Steps	Lvl 1	Lvl 2	Lvl 3 to Lvl 8	Lvl 9 & Lvl 10
0	722	747	701	
1	Slot SI			Slot SI & RB
2	Cast FtHoF with the correct season (this should have your scried outcome!)			
3	If Christmas and wrath, switch to no season If golden, switch to Easter, or to Christmas if you are already in Easter			
6	22	17	1	
7	Cast FtHoF			
8	522	417	501	
9	Refill magic with a sugar lump			
10	Cast FtHoF			
11	22	17	1	
12	Cast FtHoF			

Quadcasting with DI

This is the above quadcasting route, augmented with a Diminish Ineptitude cast to increase probability of FtHoF success.

- **Look at the column with your tower level.**
- Blue numbers are wizard tower counts. Before you begin the combo, have the amount of towers specified in step 0 and with full magic, where you would want to have the most amount of towers you can reasonably get ending in the number specified.

- If you scried the effect in a non-Christmas season, you also need to swap to a non-Christmas season before casting.
- If you scried the effect in Christmas or no season, you need to switch to those before casting.
- You need at least 550 wizard towers to begin with.

Steps	Lvl 1	Lvl 2	Lvl 3 to Lvl 8	Lvl 9 & Lvl 10
0	__2	__7	__1	
1	Slot SI			Slot SI & RB
2	Cast FtHoF with the correct season (this should have your scried outcome!)			
3	If Christmas and wrath, switch to no season If golden, switch to Easter, or to Christmas if you are already in Easter			
4	52	47	21	
5	Cast RA, if backfire cast HC, if success cast DI (can skip for 100% Consistency) Be outside of Grandmapocalypse; it is backfire if it starts with “Backfire!”			
6	22	17	1	
7	Cast FtHoF			
8	522	417	501	
9	Refill magic with a sugar lump			
10	Cast FtHoF			
11	22	17	1	
12	Cast FtHoF			
13	If using a caramelized sugar lump, harvest it and repeat steps 8 to 12 inclusive.			

Level 2 advanced strats

(After using GFD, it actually takes 1 second to cast its selected spell, so “cancel with [spell name]” means to cast that spell before the GFD casts its selected spell (also called “resolving”) to drain mana so that there is not enough mana left for the actual spell, preventing it from being casted.)

Keep in mind that the routes below do not account for unslotting Supreme Intellect for less backfires.

Midcombo scry cancel

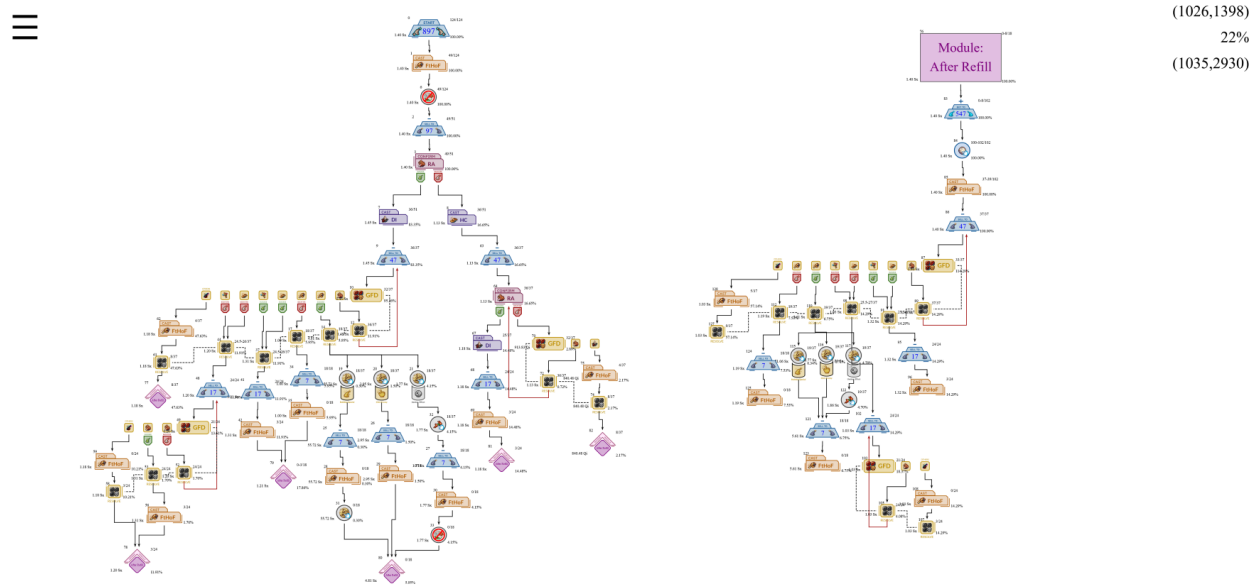
847/947 FTHOF→ 47 RA backfire→ check below

- Cast GFD
    - If DI, cancel with FTHOF, continue the quadcast with 17 FTHOF→ 547 RA confirm
        - If success, cast DI and continue the quadcast with 347 FTHOF → 27 FTHOF → 527 FTHOF if carm→ 27 FTHOF
        - If backfire, cast HC and continue the quadcast with 347 FTHOF → 27 FTHOF → 547 RA confirm
            - If success, cast DI and continue with 347 FTHOF→ 17 FTHOF
            - If backfire, cast HC and use 347 FTHOF→ 17 FTHOF
    - If RA, let it resolve and check RA
        - If success, cast DI, continue the quadcast normally with 547 FTHOF→ 47 FTHOF→ 547 FTHOF if carm → 47 FTHOF
        - If backfire, try again

Notes: This strategy is a revision of the normal DI quadcast. RB slotting is for a slightly increased chance of RA. Substitute GFD cancel or 1 ST route in if desired.

GFD cancel (SI required, use RB too if using 907)

If you have difficulty seeing, raw can be found here: link



Note: cast HC at 97 if RA fails, ST at 1 is optional and can't be RA confirmed. If you get GFD FTHOF, you may check the outcome and season swap if you don't get a good result. Replace 47 GFD with ST if you don't have time. The 907 FTHOF version with SI+RB allows for more normal FTHOF casts/GFD confirms.

1 ST (SI required)

647/747/847/947 FTHOF → 47 DI/HC → 17 FTHOF → 517 ST → 317 FTHOF → 17 FTHOF → 517 ST if carm → 317 FTHOF → 17 FTHOF

3 DI 2 ST (SI required)
657/757/857 FTHOF→ 57 see below

- Success→ DI → 27 FTHOF → 627 ST→ 327 ST→ 127 FTHOF →7 FTHOF→ 517 ST if carm→ 317 FTHOF→17 FTHOF
- Backfire→ HC
- Sell to 27
    - RA Success → DI→ 7 FTHOF
    - RA Backfire → GFD
        - If RA success, DI→ 7 FTHOF→ 517 ST if carm→ 317 FTHOF→17 FTHOF
        - If RA backfire, try again
        - If all else, FTHOF skip→ 607 DI/HC→327 ST→ 127 FTHOF→ 7 FTHOF→ 517 ST if carm→ 317 FTHOF→17 FTHOF

Notes: this strategy is useful if you can't afford 897 wizard towers. Instead of using 627 ST, you may want to integrate the 897 GFD cancel strategy in from 547 FTHOF

Metascrying
Download .txt from
https://discord.com/channels/412363381891137536/1110041095196397618/1421033698505130004 (discord link, requires joining Dashnet Forums), then import into
https://joseph3079.github.io/CCComboOddsCalculator/

Level 10 advanced strats

(After using GFD, it actually takes 1 second to cast its selected spell, so "cancel with [spell name]" means to cast that spell before the GFD casts its selected spell (also called "resolving") to drain mana so that there is not enough mana left for the actual spell, preventing it from being casted.)

Keep in mind that the routes below do not account for unslotting Supreme Intellect for less backfires.

3DI + 1ST Integrated (carmless)
Slot SI
961 FTHOF → 61 RA confirm

- If success, DI → 11 FTHOF → 621 FTHOF → 21 RA confirm
    - If success, ST → 1 FTHOF
    - If backfire, HC → 1 FTHOF
- If backfire, cast HC and sell to 11 then RA confirm
    - If success, cast DI→1 FTHOF→ 501 FTHOF→ 1 FTHOF
    - If backfire, cast GFD→ skip with FTHOF→ 601 RA confirm
        - If success, cast DI → 301 FTHOF → 1 FTHOF

        - If backfire, cast HC → 301 FTHOF → 1 FTHOF

Notes: This is the standard route for level 10.
-> advantages: high chance for hitting a DI increasing the chances of getting a CF, and a ST makes execution easier by giving you more time to do stuff
-> disadvantages: wastes time casting ST if you are confident in your execution and/or got the BS early, is not as optimized for chances of success as midcombo scry cancel or metascrying

2ST clutch (carmless)
(SI + RB) 966 FTHOF → 66 RA confirm

- If success, cast ST→ 6 FTHOF → 606 FTHOF → 26 RA confirm
    - If success, ST → 6 FTHOF, continue exec with 2 STs
    - If backfire, unslot SI and GFD
        - GFD yield RA → get free skip, return to RA confirm
        - GFD yield DI → cancel with FTHOF, continue exec with only one ST casted
- If backfire, unslot SI and GFD
    - GFD yield RA → get free skip, return to RA confirm
    - GFD yield DI → cancel with FTHOF → slot SI again → 666 FTHOF → 26 RA confirm
        - If success, ST → 6 FTHOF, continue exec with only one ST casted
        - If backfire, unslot SI and GFD
            - GFD yield RA → get free skip
            - GFD yield DI → cancel with FTHOF, continue exec with no STs

Notes: Good for a dying DH or with low gc frequency. ~75% for successful 2 STs, but gives up the DI.

Midcombo scry cancel
751/851/951 FTHOF→ 51 RA backfire→ check below

- Replace SI with RB if at 851/951 or slot RB in the other slot if 751
- Cast GFD
    - If DI, cancel with FTHOF, reslot SI, continue the quadcast with 1 FTHOF→ 601 RA confirm
        - If success, cast DI and continue the quadcast with 301 FTHOF → 1 FTHOF → 501 FTHOF if carm→ 1 FTHOF
        - If backfire, cast HC and continue the quadcast with 301 FTHOF → 1 FTHOF → 501 RA confirm
            - If success, cast DI and continue with 251 FTHOF→ 1 FTHOF
            - If backfire, cast HC and use 301 FTHOF→ 1 FTHOF
    - If RA, let it resolve and check RA
        - If success, reslot SI if you've unslotted and cast DI, continue the quadcast normally with 1 FTHOF→ 601 FTHOF→ 21 ST→ 1 FTHOF → 501 FTHOF if carm → 1 FTHOF
        - If backfire, try again

Notes: This strategy is a revision of the normal DI quadcast but switching auras is a hassle unless if you have 751 wizard towers. RB slotting is for a slightly increased chance of RA.
-> advantages: good chance of good buffs
-> disadvantages: relatively complex, requires timings, no ST

ST strat (requires SI, RB also needed if using 851)
851/951/961 FTHOF→ 51 (61 if using 961) RA confirm

- If success, cast DI→ 1 (11 if using 961) FTHOF→ 601 (621 if using 961) FTHOF→ 21 ST (ra confirmed)→ 1 FTHOF → 501 FTHOF if carm → 1 FTHOF
- If backfire, cast HC and proceed with 1 FTHOF → 601 FTHOF→ 21 ST→ 1 FTHOF→ 501 RA confirm if carm (optional)
    - If success, cast DI→ 251 FTHOF→ 1 FTHOF
    - If backfire, cast HC → 301 FTHOF→ 1 FTHOF

Notes: 601 FTHOF after HC could be replaced by DI for more chances at CF.

Metascrying
Flowchart
Notes: This is unfinished

Veil confirm

Veil confirming is checking if the veil will break on a certain click because the veil is seeded the same way as spells. If the veil does not break, then your spell will not backfire. If you want to use this strategy, make your cookie click count the same as your all time spell count. Having 3 or 4 veil heavenly upgrades is optimal for this strategy.

After you acquire a series of protects and breaks corresponding to your all time spell count, if you are level 10, use this document to acquire a route to use. If you are not level 10, a document is not available, ask someone in the discord about routing, though note that barely anyone knows enough to do it.

CCCEM Practice tip

- Use the Cast finder mod (load via the interface) to practice a given set of protects and breaks.
- Start with the code `Find: 999999 & P: 1 & b^ef`
- Then, affix `60%+^*` if it's a protect, and `60%-^*` if it's a break, with commas separating them.
- Use `70%+^*` and `70%-^*` if you have 3 veil upgrades instead of 4.
- Example: `Find: 999999 & P: 1 & b^ef, 70%-^*, 70%+^*, 70%-^*,70%+^*, 70%-^*, 70%-^*, 70%+^*, 70%-^*, 70%-^*`

Replanting setups

This section concerns what to do during the replanting stage of the combo.

Simple setup: Full baby Whiskerblooms

- However, if next tick will come in a minute or less, plant full thumbcorns instead and use SI when tick passing to try to get as many sprout thumbcorns as possible.





Glovemorel + Whiskerbloom setup: Boxes with Nursetulips indicate the location of the Nursetulip stripes before the harvest all. If the stripes are not as indicated, flip or rotate the setup you have until it matches.





Note: Glovemorels are up to 0.7% better than full whiskerblooms, which means that you should only use them if your execution is fast enough. The upper set up is a percent of a percent weaker than the bottom one while being easier to execute.

CCCEM Practice tip

- Use the “Tick” and “Rotation” options in the Minigame options category to fix the orientation of your plants.

Godzamok usage

There are primarily two ways to use godzamok.

Normal sell

During a specified point in the combo, sell all of Farms, Mines, Factories, Banks, Wizard Towers, Shipments, Alchemy Labs, Portals, and Antimatter Condensers.

EB rebuy

EB rebuy is a strategy that utilizes Elder Battalion's effect, attempting to quickly rebuy buildings after Godzamok sell to obtain its full effect. It requires much more skill than the normal method, but as Elder Battalion is generally stronger than both Radiant Appetite and Breath of Milk, it can result in more cookies.
To do it, at least sell cursors to portals inclusive, and use the enter key (with screen reader mode on) to buy them back quickly, starting from grandmas, then cursors, then work your way down.

CCCEM Practice tip

- If using EB rebuy, toggle the "EB" and "Rebuy" options to get a more accurate score.

Chapter 4: Execution

How to actually perform the combos, once you get there.
Note: Blue = effects, Purple = notable elements (dragon auras, pantheon gods, etc.), Orange = Golden cookies, Red = Wrath cookies

100% Consistency late game combo

Aka **F+DH+BS+CF+4GC**
This combo is a nice mix between ease of execution/setup and power. It has a 100% success rate (given scried CF) and its scrying target is very easy to achieve, whilst capable of giving hundreds of thousands of years of CpS. Typically used to reach late Unvigintillions in v2.052.
Video of execution: https://youtu.be/VDB3czxO8f4 (Features ST execution; but don't use loans before the golden switch)

Pantheon setup: Vomitrax/Selebrak/Muridal, 3/3 swaps remaining
Buildings: Normal
Scried FtHoF outcome: Click frenzy
Afterwards: Buy chocolate egg, get achievements and upgrades to permaslot.

CCCEM Practice tip

- Use the "100% consistency" preset in the presets category to instantly configure your CCCEM for this combo.
- Adjust "Tower level", "Wizard towers [count]", and "Farm level" to your own save.

- ❖ Use the building override options, found on the row with “overriding number” in the Game setting options category, to get 9 Yous at the start of the attempt.

1. **Get F + DH + BS**. Instructions can be found in the Stacking buffs section.
2. **Harvest all** plants and quickly **replant** garden with a suitable setup (**check in information section for setups**)
3. **Change** Reaper of Fields to Radiant Appetite (and Supreme Intellect and/or Reality Bending if the grimoire execution needs it)
4. **Swap** Godzamok into diamond pantheon slot, then if you scried in no season or Christmas, switch to **no season**
5. **Commence** the Grimoire execution, using the Quadcasting route (this is a link): Cookie Clicker v2.058 endgame combo guide, then **rebuy** Wizard Towers. **Change season** to Valentine’s after casting the **scried CF** (so you know which one is the **CF**).
6. **Wait** for the next natural GC to spawn, and **turn on** Golden Switch, Sugar Frenzy, then select “Sell All”
7. **Collect** only the **scried CF** (you should have 4 leftover GC/WC on screen now, let them stay for Dragon's Fortune)
8. **Change** both auras into Dragon’s Fortune + Radiant Appetite
9. **Take all Loans** from stock market
10. **Swap** Holobore to ruby pantheon slot
11. If upgrades are available, **click** the big cookie a few times, then click **buy all upgrades**
12. **Sell** all Godzamok buildings (check Godzamok usage section; BE QUICK)
13. **Swap** Mokalsium to diamond pantheon slot (BE QUICK)
14. **Click** the cookie

Tryhard’s Double Building special combo

Worst case scenario: **F+DH+2BS**
~48% chance of **F+DH+2BS+CF+(up to 4)GC**
This combo is powerful enough for the last cookie-related achievement of trevigintillion CBTA, yet having a solid success chance and a somewhat easy scry target.
Video of execution: bs scry combo 80 duovig

Pantheon setup: Vomitrax/Selebrak/Muridal, 3/3 swaps remaining
Buildings: 9 Yous, everything else normal (may also sell down to 9 Cortex Bakers and 9 Idleverses, then use screen reader mode to buy instead)
Scried FtHoF outcome: Building special
Afterwards: Buy chocolate egg, get achievements and upgrades to permaslot.

CCCEM Practice tip

- ❖ Use the “BS Scry” preset in the presets category to instantly configure your CCCEM for this combo.

- Adjust “Tower level”, “Wizard towers [count]”, and “Farm level” to your own save.
- Use the building override options, found on the row with “overriding number” in the Game setting options category, to get 9 Yous at the start of the attempt.

1. **Get F + DH + BS**. Instructions can be found in the Stacking buffs section.
2. **Harvest all** plants and quickly replant garden with a suitable setup (check in informations section for setups)
3. **Sell all** of the building corresponding to the natural **BS** to prevent a duplicate, unless it is Wizard tower.
4. **Change** Reaper of Fields to Radiant Appetite (Supreme Intellect if the grimoire execution needs it), and **change** other aura to Dragonflight (or Reality Bending if needed)
5. **Swap** Godzamok into diamond pantheon slot, then if you scried in no season or Christmas, switch to **no season**
6. **Commence** the grimoire execution using the Quadcasting with DI route (this is a link): Cookie Clicker v2.058 endgame combo guide, then **rebuy** Wizard Towers. Click the **scried BS** immediately as you cast the FtHoF. (if you want to challenge yourself, you can also use an advanced grimoire route in this doc)
7. **Switch** to Valentine’s, so that you know which GCs are naturals and which are FTHOF.
8. **Wait** for the next natural GC to spawn
9. **Spam** buy Yous, then select “Sell All”
10. **Click** any FtHoF Golden cookies until a **CF** is gotten. Also click naturals if no FtHoF Golden cookies give **CF**.
11. If you get a clicking buff, **click** the big cookie for a few seconds (usually ~3 for 10 clicks / second), then **turn on** Golden Switch; if cannot afford, click more
12. **Change** one of the auras to Dragon’s Fortune if there are any GCs left onscreen. Otherwise, use Breath of Milk. **Change** the other aura into Radiant Appetite. If using EB rebuy, instead change the weakest aura to be chosen to instead be Elder Battalion.
13. If good outcome, **activate** Sugar Frenzy
14. **Buy back** the building sold during step 3, buy as many as you can.
15. **Take all Loans** from stock market
16. **Swap** Holobore to ruby pantheon slot
17. If upgrades are available, **click** the big cookie a few times, then click **buy all upgrades**
18. **Sell all** Godzamok buildings (check Godzamok usage section; BE QUICK)
19. **Swap** Mokalsium to diamond pantheon slot (BE QUICK)
20. **Click** the cookie

Giga tryhard’s post-endgame complete Elder frenzy combo (Grail)

Worst case scenario: **F+DH+BS+EF**

~46% chance of **F+DH+BS+EF+CF+(up to 4) GC** or better
~3% chance of **F+DH+2BS+EF+CF+(up to 2)GC** or better (weak grail)
~3% chance of **F+DH+BS+EF+DF+CF+(up to 3)GC** or better (this is a nice combo!)
This is the famous holy grail of no-scum, no-planner combos, but is also infamously extremely difficult to achieve, with each attempt needing an **EF scry** but only has a miniscule chance of success. However, this is the only practical way to obtain a quinvigintillion in v2.058.
If you manage to scry an EF you should still attempt this combo, even if the full grail is not the goal; in which case, reverse step 12 and 13 to maximize chance, and do not do step 12 if a CF has already been obtained from step 13. The 46% outcome is still a very quick way to get into trevigintillion.
Video of execution: https://youtu.be/GVGLF-YEs9g?si=7PNyjOKaqWbXjxx3
Another video of execution featuring **advanced level 2 GFD strat**:
Cookie Clicker - 26.395 Quinvigintillion Cookies (comp WR)

Pantheon setup: Vomitrax/Selebrak/Muridal, 3/3 swaps remaining
Buildings: 9 Yous, everything else normal (may also sell down to 9 Cortex Bakers and 9 Idleverses, then use screen reader mode to buy instead)
Scried FtHoF outcome: Elder frenzy
Afterwards: Sell all buildings, buy chocolate egg, and if applicable get achievements and upgrades.

CCCEM Practice tip

- Use the "Grail" preset in the presets category to instantly configure your CCCEM for this combo.
- Adjust "Tower level", "Wizard towers [count]", and "Farm level" to your own save.
- Use the building override options, found on the row with "overriding number" in the Game setting options category, to get 9 Yous at the start of the attempt.

1. **Get F + DH + BS**. Instructions can be found in the Stacking buffs section.
2. **Turn on** Fancy graphics.
3. **Sell all** of the building corresponding to the natural **BS** to prevent a duplicate, unless it is Wizard tower.
4. **Harvest all** plants and quickly replant garden with a suitable setup (check in informations section for setups)
5. **Change** Reaper of Fields to Radiant Appetite (Supreme Intellect if the grimoire execution needs it), and Dragonflight in the other aura (or Reality Bending if needed)
6. **Swap** Godzamok into diamond pantheon slot, then if you scried in no season or Christmas, switch to **no season**
7. **Commence** the grimoire execution of your choice, then **rebuy** Wizard Towers
8. **Switch** to Easter (or no season if scrying was done in Easter/Valentine's), to distinguish naturals from FTHOFs.
9. **Wait** for the new natural GC to spawn, then **activate** Golden Switch. You can activate Sugar Frenzy here, but it'll waste a lump if you don't get anything good.

10. **Spam buy** Yous, then select “Sell all”.
11. **Take all loans** from the Stocks Market.
12. **Preselect** Dragon's Fortune aura on Dragonflight's slot, then collect all **natural GCs** (including any **fortune GCs**), stopping if any **DF** is gotten or if all naturals have been clicked.
13. **Collect** all **FtHoF GCs**, stopping if any **CF** is gotten, sell the corresponding building if any **BS** if gotten and you still have GCs left, skip any particularly small golden cookies that indicate a storm drop, then press Enter (leave the rest on the screen)
14. If good outcome, **activate** Sugar Frenzy if you haven’t done so before
15. **Change** Dragon’s Fortune to Breath of Milk if there aren’t any GCs left onscreen. **Change** the other aura into Radiant Appetite if it is not already. If using EB rebuy, instead change the weakest aura to be chosen to instead be Elder Battalion.
16. **Buy back** all the buildings you sold for BS duplicate prevention.
17. **Tab through** buildings to buy while **clicking** the big cookie, use enter to rapidly buy all of them. (screen reader mode need to be enabled, only works on certain browsers)
18. If there is only the **scried Elder frenzy** and **exactly one** GC left onscreen at this point with no other WCs, **click** the GC and use Breath of Milk, trading a very small loss in CpS for a good chance for **BS**.
19. **Collect** the **scried Elder frenzy**
20. **Swap** Holobore or Jeremy to ruby pantheon slot quickly; Holobore by default, Jeremy if a cookie storm is happening
21. If upgrades are available, **click** the big cookie a few times, then click **buy all upgrades**
22. **Sell all** Godzamok buildings (BE QUICK)
23. **Swap** Mokalsium to diamond pantheon slot (BE QUICK)
24. **Destroy the big old cookie with clicks!**

Glossary

Auras
DO/orbs - Dragon Orbs
EB - Elder Battalion
SI - Supreme intellect
RB - Reality bending

Golden/Wrath cookies:
GC - Golden cookie
F - Frenzy
DH - Dragon harvest
BS - Building special (GC buff where +10% cps per the amount of a certain building type)
EF - Elder frenzy
CF - Click frenzy

DF - Dragon harvest
WC - Wrath cookie
Naturals - Naturally spawned GCs (also includes spawns from the “Today is your lucky day!” fortune news ticker message)

Spells
FTHOF - Force the hand of fate
RA - Resurrect abomination
DI - Ineptitude diminished
HC - Haggler’s charm
ST - Stretch time
GFD - Gambler’s fever dream
SCP - Summon crafty pixies
SE - Spontaneous edifice

Miscellaneous
Towers - Wizard Towers
cps - Cookies per second
CCCEM - Cookie Clicker Combo Execution Mod
100% Consistency - A combo of F+DH+BS+CF+4GC. Other effects, such as Godzamok’s Devastation, are implied.
Grail - A combo of F+DH+BS+EF+CF+DF alongside 0 or more GCs. Other effects, such as Godzamok’s Devastation, are implied.
Weak grail - A grail where you’re missing a CF or DF but have an extra BS; this is about as common as a full grail.
Setup combo - A combo used to afford more buildings and plant for the actual combo. Details in the corresponding section above.
Soup - Stands for Setup combo.
Mokalsium/Holobore/Cyclius swap - Swapping the pantheon during the combo for more cookies.
Veil - Shimmering veil