

charm quark (+2/3)

anti-charm quark (-2/3)

gluon (0)

anti-up (-2/3)

or

anti-down (+1/3)

or

anti-strange (+1/3)

or

anti-beauty (+1/3)

or

anti-top (-2/3)

or

anti-charm (-2/3)

up (+2/3)

or

down (-1/3)

or

strange (-1/3)

or

beauty (-1/3)

or

top (+2/3)

or

charm (+2/3)



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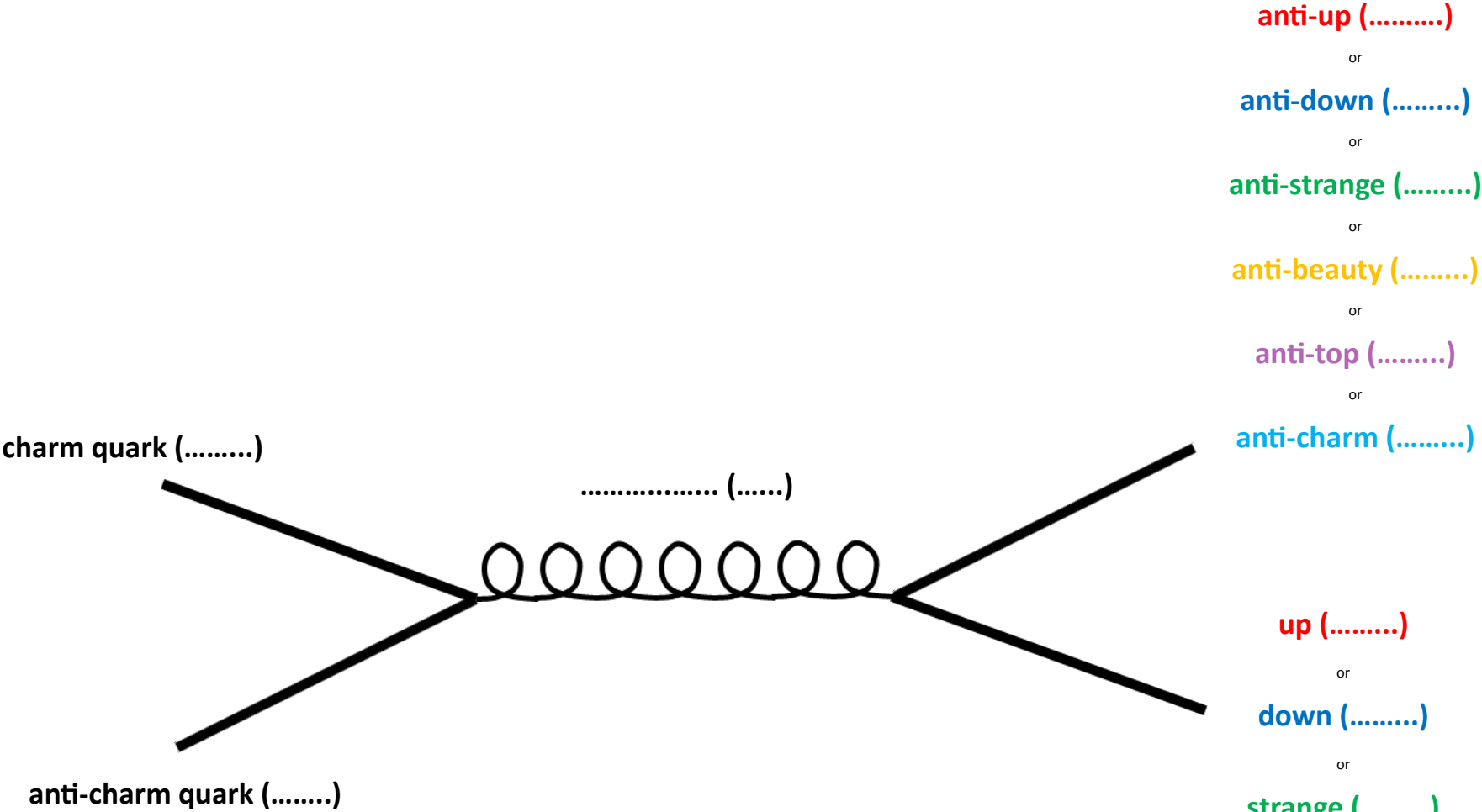
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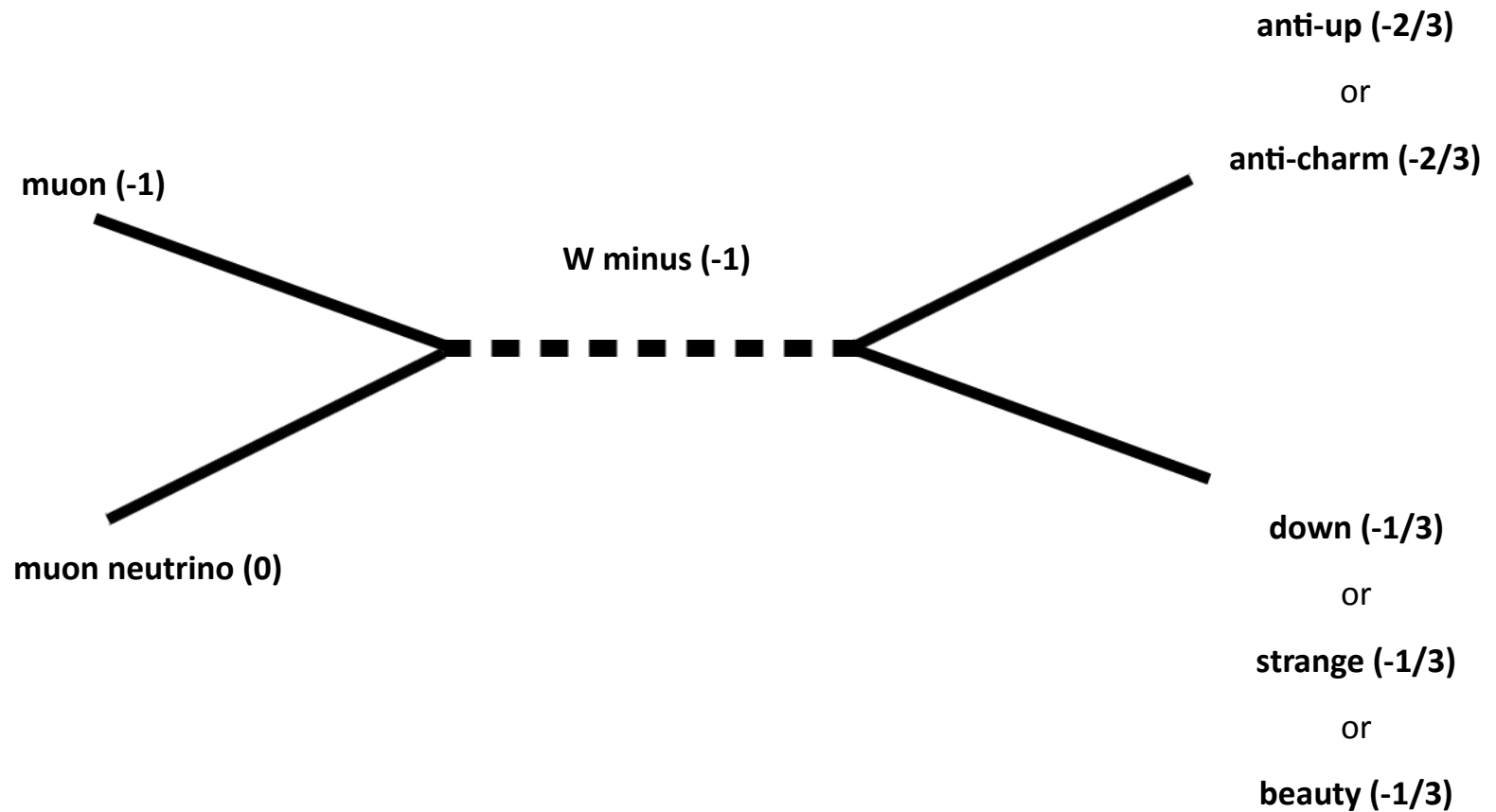


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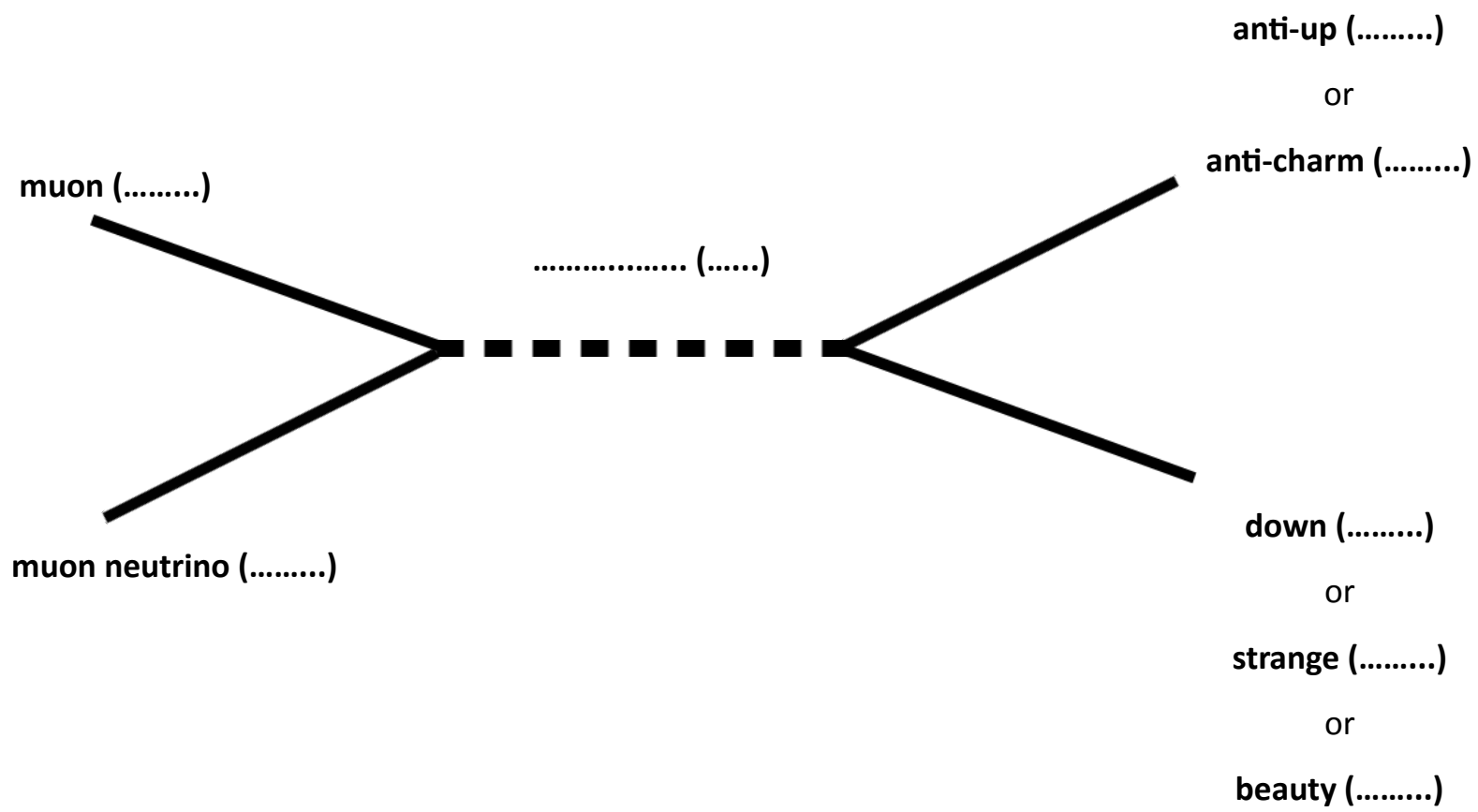
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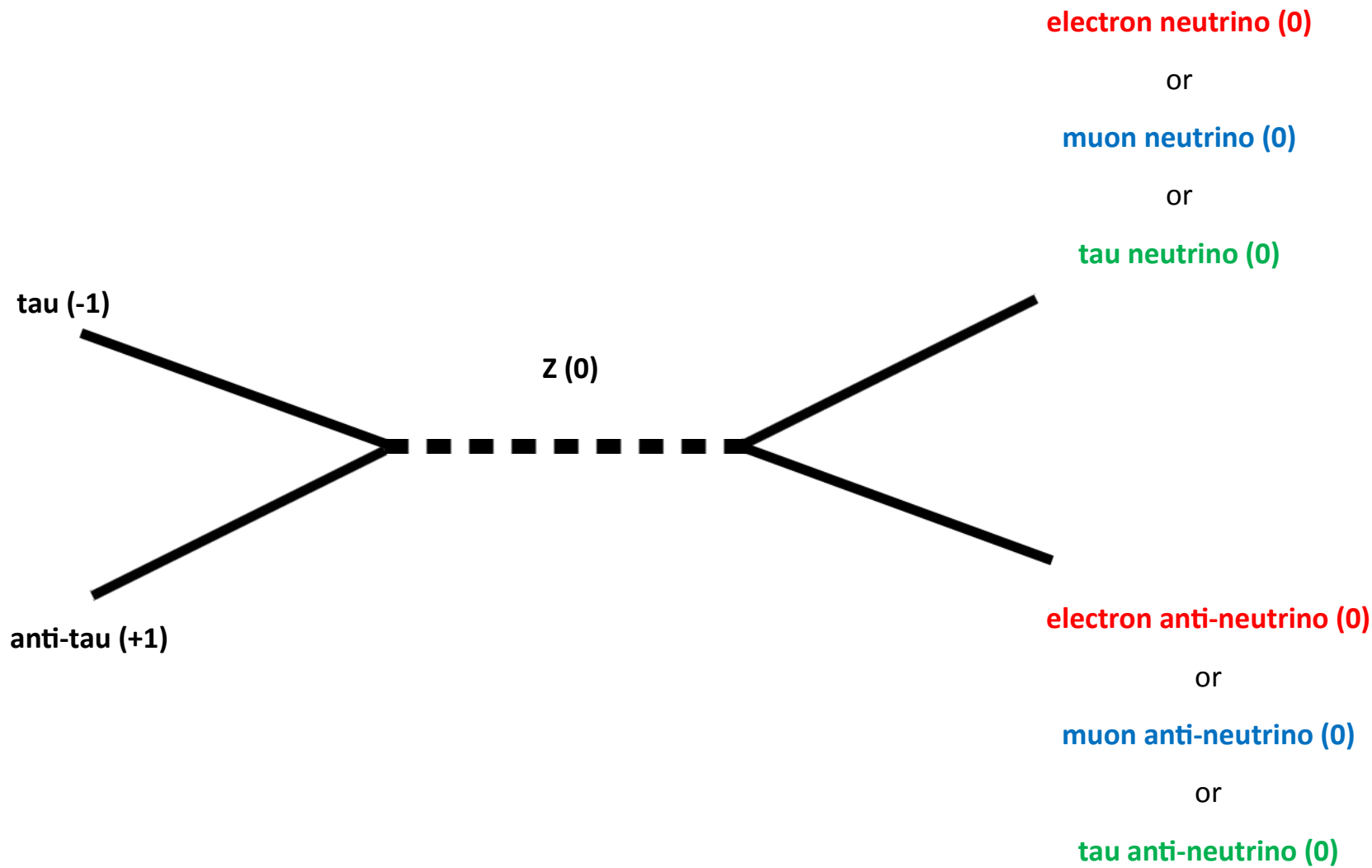


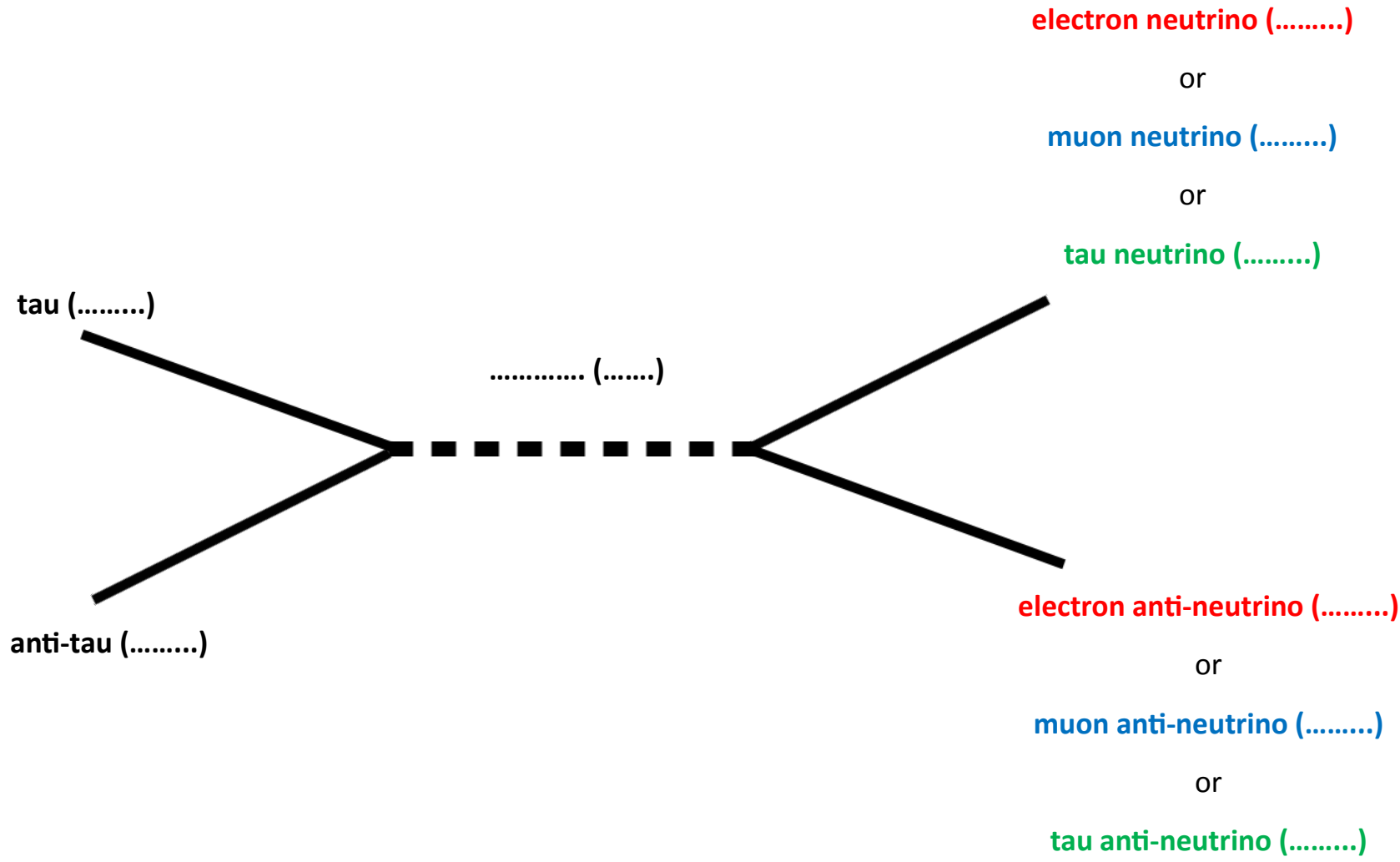
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One sunny day Jimmy the **electron** and Molly the **anti-electron** were playing in their garden eating cookies and drinking orange juice. Jimmy started feeling really hot from the sun. Molly said “oh poor you...”. She took his hand to comfort him but suddenly...they both disappeared!

In their place a very greedy **photon** appeared who started eating all the cookies. The cookies were many and the photon got bigger and bigger until... it exploded with a big “splat” sound!

Left behind were two chatty **muons** who immediately started to discuss the wonders of this world and how too many cookies in one go are bad for you...



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It is the annual ball of the quarks. **Charm** quark has been choosing its outfit for weeks. It has taken weekly lessons on how to walk gracefully and behave in a charming way towards others. In its own house, **anti-charm** quark is also getting ready for the ball. Its aim: to avoid bumping into charm quark at all costs. The anti-charm knows what happens when matter and antimatter meet....

Both quarks arrive at the ball and, what a joy, the first dance is anti-charm's favourite song! Without hesitation it jumps on the dance floor and starts swinging. But disaster is not far away.... charm quark has the same idea. Within minutes they accidentally bump into each other and both disappear leaving a very sticky **gluey** mess behind.

The music stops and everybody rushes to clear up the mess. They look for the gluey stain but it is not there any longer. Nobody notices the two **beautiful** new quarks that have joined the ball in the meantime that seemed to come from nowhere... Or have they?



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In the school of particles the **muon** is a very polite student but the **muon neutrino** is the cheekiest of all. The muon is embarrassed by the fact that it shares the same name with the naughtiest neutrino. It tries to avoid contact at all costs. The muon neutrino finds this attitude amusing. It hides behind doors and jumps in front of the muon whenever it gets a chance!

One morning the headmistress hears the news that the very strict school inspector Mr **W minus** is coming. He is called “minus” because he often gives negative grades to schools. Everybody is stressed and they are rushing around like mad! The muon neutrino takes full advantage of this and without hesitation it bumps into the muon! Oh dear! Mr W is already here!

Everybody rushes around him to help give the best impressions. But what a change ... Mr W seems to have mellowed a lot.... he has changed a lot too.... He is now a **charming** inspector with **beautiful** thoughts on how to improve the school and make it the best in the country.



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Mr **tau** and Mrs **anti-tau** are in Turkey spending their days sunbathing in the seaside. Mrs anti-tau loves the sea, she loves diving in and watching all the small fish swim. Mr tau is more cautious, he prefers to stay safe and swims only in the shallow end. One morning, while swimming, Mrs anti-tau started shouting out with excitement “Come in Mr tau, there is an octopus here!” Mr tau is cautious but also curious; he does not want to miss such a great opportunity to see a living octopus. He jumps in quickly and the couple disappears under the water.

At the same time a **Z0**-ebra fish appears in the exact same spot they were last seen. The fish swims around; it is lost. “Where am I?” it wonders. The fish wants to go back to its home. It decides to jump out of the water.

In a blink of an eye it leaps out of the water and turns into two tiny creatures that decide to move in opposite directions. Their names? Have a guess...



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