Exponential decay of caffeine for popular beverages

As many of you may already know, caffeine stays in our systems for quite some time after consumption. In fact, is follows an exponential decay, with a biological half life of ~5.7 hours. Curious to see just how long different popular drinks last in our system, I created a chart to show the decay of various popular beverages (assumes an 8oz serving size, x-axis is hours post-consumption where 'null' is 0 hours after consumption i.e. the original caffeine value):

So, for example, we can see that the caffeine content in an 8oz serving of coffee decays from 140mg upon consumption (labeled 'null' on x-axis) to 123.9mg after 1 hour of digestion, and 32mg 12 hours post-consumption.

Data/math/extras

The caffeine values were obtained here, and I used an assumed half life of 5.7 hours in my exponential decay formula. My math can be found here.

Want to check the decay of a specific drink/caffeine value? Check out this small tool I created.

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