

# DRUG TRENDS

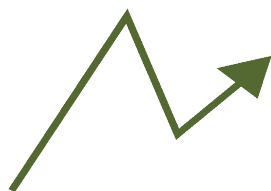
## Trends in the availability and type of drugs sold on the internet via cryptomarkets, May 2020 - May 2021

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14 cryptomarkets monitored

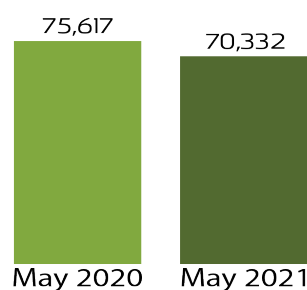


From May 2020 to May 2021, 14 cryptomarkets were monitored.

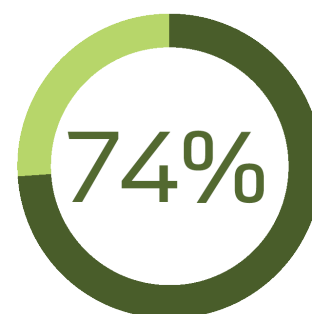
3 monitored cryptomarkets closed

- DarkBay
- Empire Market
- Dark Market

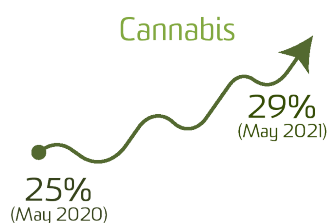
From May 2020 to May 2021, 3 of the monitored cryptomarkets closed.



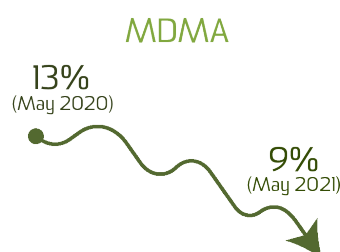
The average number of listings per weekly scrape decreased by 7% from 75,617 in May 2020 to 70,332 in May 2021.



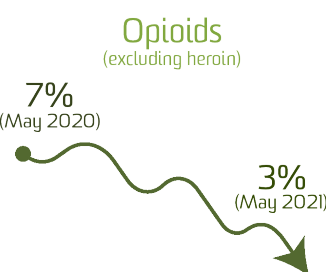
In the last week of May 2021, the 3 largest markets (White House Market, DarkOde Market and ToRReZ Market) had 74% of drug listings.



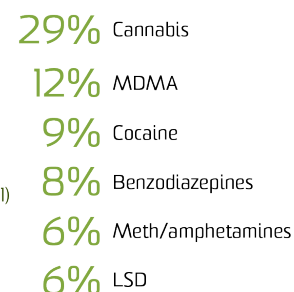
The market share of cannabis had the biggest increase from 25% in May 2020 to 29% in May 2021.



The market share of MDMA had the decreased from 13% in May 2020 to 9% in May 2021.



The market share of opioids (excluding heroin) decreased from 7% in May 2020 to 3% in May 2021.



Top 6 drugs across cryptomarket listings from May 2020 to May 2021.

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## Key Findings

- From 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021, fourteen cryptomarkets were monitored weekly, of which eleven were active at the end of the reporting period.
- All of the three monitored cryptomarkets that closed during 1<sup>st</sup> May 2020-31<sup>st</sup> May 2021 had ceased operation before 31<sup>st</sup> January 2021, i.e. before the end of the reporting period for the [last Bulletin](#).
- There was an average of 70,332 drug listings per weekly scrape in May 2021, representing a 126% increase in listings as compared to April 2021 (n=31,063), and a 7% decrease in listings as compared to May 2020 (n=75,617). The former increase was largely attributable to the addition of seven cryptomarkets to monitoring during May 2021. Further investigation suggested these seven markets were operating from since February-July 2020 (but not captured in our monitoring), and thus caution is recommended for comparison between April and May 2021.
- In the last week of monitoring in May 2021, White House Market, Dark0de Market and ToRReZ market were the three biggest cryptomarkets accounting for 74% of the observed drug listings.
- The greatest market share of drugs listed on the cryptomarkets from May 2020 to May 2021 was held by cannabis (29%), followed by MDMA (12%), cocaine (9%), benzodiazepines (8%), meth/amphetamine (illicit) (6%), and LSD (6%).
- The market share of cannabis showed the biggest percentage increase from 25% in May 2020 to 29% in May 2021. The biggest percentage decreases in market share were observed for MDMA (13% in May 2020 to 9% in May 2021), and for opioids (excluding heroin) (7% in May 2020 to 3% in May 2021).

## Background

This bulletin series reports on trends in the availability and type of substances sold on the internet via cryptomarkets over the last 13 months (a new bulletin is released typically every four months). The current bulletin focuses on analysis of drug listings on cryptomarkets from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021.

[Drug Trends](#) have identified, crawled (or 'scraped'), extracted, categorised and analysed drug listings on cryptomarkets on a weekly basis since 1<sup>st</sup> January 2014, formerly using VBA programming processes, and since 9<sup>th</sup> August 2018 using a range of programmed automated processes in Python that operate with minimal manual input. Following extraction of common text features across each listing (e.g., drug listing name, vendor name and the price in bitcoin or dollars), individual listings are categorised according to a pre-specified classification structure using a rules-based approach through text-matching in the first instance, followed by a long short-term memory (LSTM) artificial neural network (target predictive percentage 90%) that has been trained on historically categorised listings for those not matched through the former process. Further background and information regarding the methods are available for [download](#).

### Panel A. Terminology

- **Cryptomarkets** ('darknet markets') are anonymous online trading platforms that facilitate the purchasing of illicit goods and services via multiple sellers. Licit products (e.g., alcohol) may occasionally be traded on these platforms.
- **Number of listings** is the sum of listings per single scrape each week belonging to a specific market and/or drug category. For this measure, duplicate listings (defined as listings with identical names and same quantity of drug by a single vendor on a single market) within the same week are removed.
- **Number of vendors** is the sum of unique vendors per single scrape each week selling a specific drug within each market. For this measure, a vendor is considered unique only within the same market; that is, the same vendor may be counted multiple times across different markets. Please note that the number of vendors is not summed across different markets in our visualisation and bulletin.

Our reporting focuses only on identified English language cryptomarkets selling drugs which have had  $\geq 100$  drug listings and  $> 1$  vendor. Ongoing monitoring of smaller markets is undertaken to determine whether they meet the number of listings threshold with market growth over time. In addition, some markets may meet the listing threshold criteria

during at least one weekly scrape, but experience period(s) of market decline where the number of drug listings is <100. For a historical record of marketplaces monitored by DNeT, we refer the reader to our [interactive timeline](#).

Analyses are concentrated on listings on these marketplaces advertising the sale of illicit drugs (e.g., heroin), key licit drugs (e.g., alcohol, tobacco, e-cigarettes) and pharmaceutical medicines, as well as drug-related paraphernalia (e.g., needles and syringes, colorimetric reagent kits).

**An accompanying public [online interactive data visualisation](#) is available**, allowing viewers to interact with data collected over the total monitoring period. Data presented here comprise number of listings and number of vendors observed in a single scrape in a given week (see **Panel A**).

While these data can be considered reasonable estimates for trends in drug availability, we cannot guarantee exhaustive and/or immediate identification and capture of cryptomarkets once they emerge. As a result, there are some cryptomarkets which have existed for periods of time before our first scrape, resulting in a lack of data availability for these periods.

In addition, for existing identifiable markets that are regularly scraped, there can be challenges in a certain week that prevent a routine scrape. Most commonly, this is due to the occurrence of distributed denial of service (DDoS) attacks on these sites, which prevent timely and complete retrieval of site content. Scrapes can also be incomplete if the cryptomarket has made changes to its site design that prevent full crawling of content, and the script cannot be fixed in time for that week. We used linearly interpolated data for number of listings where scrapes were missed in order to derive average number of listings per weekly scrape over a stated period.

Further, data provided here can only be used as a proxy of drug availability on cryptomarkets: we have not translated to any metric that reflects the sale volume of a market or specific drug. See [here](#) for further discussion of caveats to interpretation.

**There are various approaches to collecting, collating, categorising and analysing cryptomarket data, and inherent challenges in these processes. For this reason, we have attempted to be as transparent as possible about our procedures. Our monitoring is an ongoing process, requiring constant refinements to the various stages. We welcome feedback and suggestions so that we can continue to improve utility of these data and our reporting on them <drugtrends@unsw.edu.au>.**

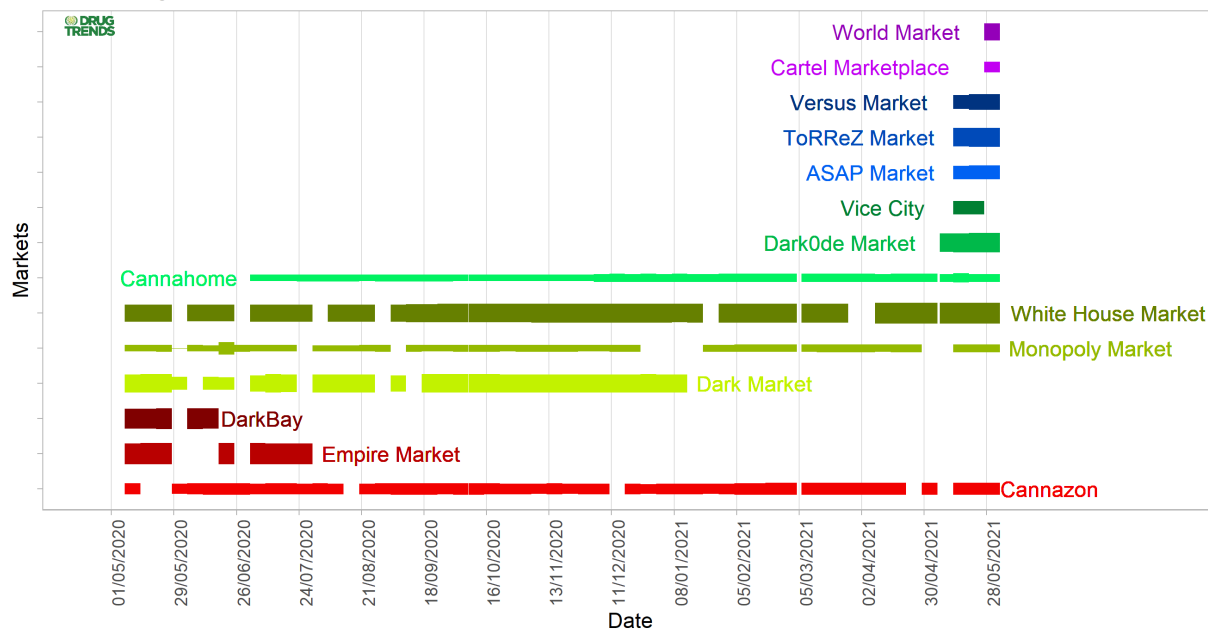
## Findings

### Profile of Markets

The current bulletin reports findings for the time period 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021. In that period, fourteen cryptomarkets were monitored ([Figure 1](#)). [Table 1](#) shows the characteristics of these cryptomarkets since the date of our first scrape in the total monitoring data available. We identified and commenced scraping seven additional markets during April and May 2021. As seen in [Figure 1](#), these additional markets are Dark0de Market, Vice City, ASAP Market, ToRReZ Market, Versus Market, Cartel Marketplace and World Market. Many of these markets have been operational since February-July 2020, based on analysis of relevant market discussion posts on Dread, a dark web forum. Our reported findings for the time period May 2020 to April 2021 do not include these additional markets. **Since our findings do not reflect the total of all cryptomarkets existing in the reporting period, the analysis and estimates in this bulletin should be treated with caution. These estimates should not be used to infer the number of drug listings across all cryptomarkets.**

**Figure 1. Markets monitored from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021.**

Source: DrugTrends, NDARC



Note: See our [interactive timeline](#) for a complete historical record of all cryptomarkets monitored since January 2014. Breaks indicate period where market crawling was not achievable. The width of the bar is proportional to the log of the number of drug listings observed in each week for each market. NB: Cartel Marketplace, Vice City, ASAP Market, Versus Market, World Market, Dark0de Market and ToRReZ Market have been operational since February-July 2020, based on analysis of relevant market discussion posts on Dread, a dark web forum but we have not monitored them before May 2021.

**Table 1. Characteristics of markets in this bulletin (in ascending order by start date of monitoring) since the start of the total monitoring data available**

Market	Status at end of monitoring period (reported reason <sup>a</sup> )	Period of monitoring			Number of listings in a scrape	
		Start date	End date	Duration in weeks <sup>b</sup>	Maximum	Average <sup>c</sup>
Cannazon	Open	26 <sup>th</sup> Apr 2018	Ongoing <sup>d</sup>	162*	2,041	1,088
Empire Market	<u>Closed</u> (DDoS/exit scam)	18 <sup>th</sup> Apr 2019	23 <sup>rd</sup> Jul 2020	67	31,622	27,445
DarkBay	<u>Closed</u> (possible exit scam)	2 <sup>nd</sup> Jan 2020	11 <sup>th</sup> Jun 2020	24	27,008	11,967
Dark Market	<u>Closed</u> (law enforcement)	9 <sup>th</sup> Jan 2020	7 <sup>th</sup> Jan 2021	53	13,363	10,207
Monopoly Market	Open	9 <sup>th</sup> Jan 2020	Ongoing <sup>d</sup>	73*	2,363	433
White House Market	Open	9 <sup>th</sup> Jan 2020	Ongoing <sup>d</sup>	73*	29,623	12,581
Cannahome	Open	2 <sup>nd</sup> Jul 2020	Ongoing <sup>d</sup>	48*	837	516
Dark0de Market	Open	7 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	4*	18,213	16,657
ASAP Market	Open	13 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	3*	3,291	3,183
ToRReZ Market	Open	13 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	3*	15,586	15,034
Versus Market	Open	13 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	3*	5,938	5,002
Vice City	Open	13 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	2*	2,963	2,944
Cartel Marketplace	Open	27 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	1*	1,240	1,240
World Market	Open	27 <sup>th</sup> May 2021	Ongoing <sup>d</sup>	1*	8,833	8,833

<sup>a</sup> Most probable reason for closure is given in brackets. <sup>b</sup> Duration of monitoring is the number of weeks between the start and end date of scraping, including those weeks where data could not be scraped from the cryptomarket. Where the cryptomarket was still active as of 31<sup>st</sup> May 2021 (indicated by \*), the duration is computed as the number of weeks between the start date and 31<sup>st</sup> May 2021. <sup>c</sup> Average number of listings per weekly scrape is computed as total number of drug listings over the weekly scrapes (including interpolated data) in the period divided by duration of the market monitoring in weeks given in the table. See [here](#) for information on how interpolated data were computed. <sup>d</sup> The cryptomarket was active as of 31<sup>st</sup> May 2021. Vice City, ASAP Market, Versus Market, World Market, Dark0de Market



and ToRReZ Market have been operational since February-July 2020, based on analysis of relevant market discussion posts on Dread, a dark web forum but we have not monitored them before May 2021.

Of the markets monitored in this bulletin, three markets were closed for the following purported reasons (**Table 1**).

- [DarkBay](#) – DarkBay was last seen active on 11<sup>th</sup> June 2020 by the authors of this bulletin and closed possibly due to an exit scam, as speculated on cryptomarket reporting sites ([searchlight](#) and [darklink](#)).
- [Empire Market](#) – Empire Market announced its pending closure in mid-July 2020 and was last seen active on 23<sup>rd</sup> July 2020 by the authors of this report. There were reports of ongoing DDoS attacks on the market as an extortion to make money, which eventually led to market closure while the site administrators exit scammed the users of an estimated \$13 million in bitcoins ([bankinfosecurity](#) and [cointelegraph](#)).
- [Dark Market](#) – Dark Market was seized by German law enforcement in collaboration with law enforcement agencies in Australia, Denmark, Moldova, Ukraine, the UK and US. The site's servers were turned off on 11<sup>th</sup> January 2021 and an Australian national alleged to be responsible for the site's operation was arrested the following day near the German-Danish border ([The Guardian](#)).

All of these markets closed before the end of the reporting period (January 2020-January 2021) of the [last Bulletin](#).

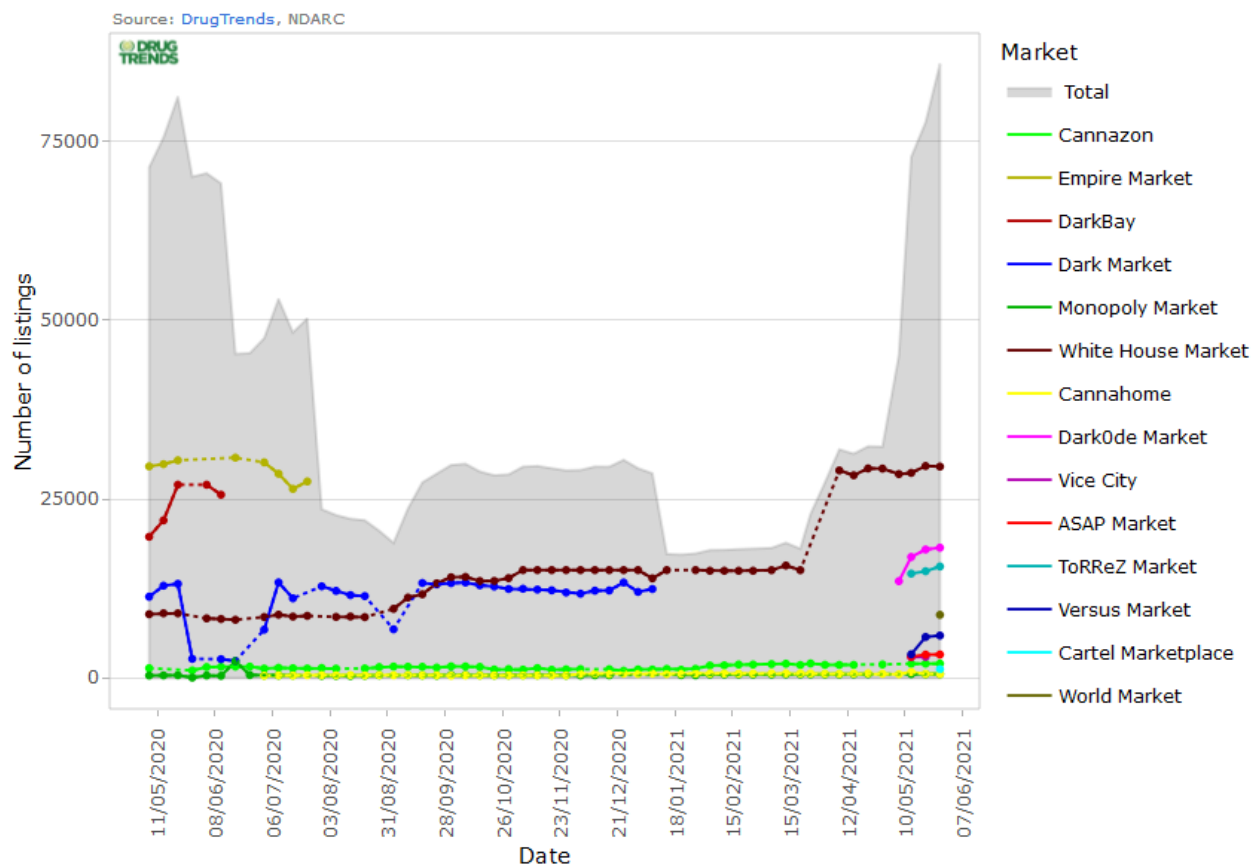
## **Active cryptomarkets**

Of the fourteen cryptomarkets monitored during this period (1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021), eleven remained active at the end of the reporting period: Vice City, Cannazon, Monopoly Market, White House Market, Cannahome, Dark0de Market, ASAP Market, ToRReZ Market, Versus Market, Cartel Marketplace and World Market (**Table 1**).

From [Figure 1](#), we can observe that the market with the longest duration of monitoring was Cannazon (total duration: 162 weeks, commencing in the last week of April 2018; **Table 1**). Cannazon is a cannabis-specific cryptomarket, with the number of drug listings per scrape ranging between 1,020 and 2,050 in the current reporting period ([Figure 2](#)). Cannahome is another cannabis-specific cryptomarket ([Figure 5](#)). This market has been scraped since 2<sup>nd</sup> July 2020, with the number of drug listings per scrape ranging between 330 and 840. In the last week of monitoring, White House Market was the largest monitored market that was active. It accounted for 34% of drug listings across all active cryptomarkets in the last week of the reporting period.

Monopoly Market is another market that we started scraping in 2020 and was active at the end of the period. Scraping of this cryptomarket started at a similar time to White House Market and Dark Market, with the number of listings per scrape ranging between 60 and 2,370 within the current reporting period.

**Figure 2. Number of drug listings by marketplace from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021.**



Note: Complete interactive visualisation available [here](#). Shaded area displays the total number of drug listing across all markets monitored at a given time. Caveats to this metric are outlined in the [methods](#). Dashed lines indicate interpolated data over periods where a market could not be monitored. Note that the commencement and discontinuation of the coloured lines indicates the opening and closure of the named market. Vice City, ASAP Market, Versus Market, World Market, DarkOde Market and ToRReZ Market have been operational since February-July 2020, based on analysis of relevant market discussion posts on Dread, a dark web forum but we have not monitored them before May 2021. **NB: Given we have not identified and scraped cryptomarkets as exhaustively in the earlier part of the reporting period, the grey area showing the total number of listings should be considered an underestimate.**



As noted previously, scraping only commenced in May 2021 for seven of the cryptomarkets active at the end of May 2021. Of these newly scraped cryptomarkets, Dark0de Market and ToRReZ Market were the two largest, with their average number of listings per scrape being 16,657 and 15,034, respectively (**Table 1**). Dark0de Market and ToRReZ Market together with White House were the three largest cryptomarkets in the last week of monitoring accounting for 74% of listings, with the other eight active markets accounting for the remaining 26% of drug listings.

World Market with 8,833 average drug listings per scrape had about half the number of listings compared with Dark0de Market and ToRReZ Market. Versus Market was similar to World Market in its composition of listings in terms of drugs sold (**Figure 5**), but was much smaller at 5,002 average drug listings per scrape. A further two markets we commenced scraping in May 2021, Vice City and ASAP Market, were comparable in size, with their number of average drug listings per scrape for the reporting period being 2,944 and 3,183 respectively (**Table 1**). The smallest of the newly scraped cryptomarkets was Cartel Marketplace, with 1,240 listings during its first and only scrape within the bounds of the reporting period.

### ***Overall number of listings in the reporting period from May 2020 to May 2021***

Based on average weekly scrapes during the reporting period (1<sup>st</sup> May 2020-31<sup>st</sup> May 2021), the largest cryptomarkets were (**Table 2**):

- Empire Market with an average of 29,627 listings per scrape over 12 weeks;
- DarkBay with an average of 24,734 listings per scrape over 6 weeks;
- Dark0de Market with an average of 16,657 listings per scrape over 4 weeks;
- ToRReZ Market with an average of 15,034 listings per scrape over 3 weeks; and
- White House Market with an average of 14,983 listings per scrape over 56 weeks.

It is also important to note that these estimates include interpolated data as per the [methodology](#).

**Table 2. Number of drug listings on the markets monitored from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021 (in descending order by average number of listings in the 13-month reporting period)**

Market	Average number of listings per weekly scrape <sup>a</sup> (number of weeks monitored <sup>b</sup> )				Relative % change in market size <sup>c</sup>	
	May 2020 - May 2021 <sup>d</sup>	May 2021	Apr 2021	May 2020	Apr 2021 to May 2021 <sup>c</sup>	May 2020 to May 2021 <sup>d</sup>
<b>Empire Market</b>	29,627 (12)	– <sup>e</sup>	– <sup>e</sup>	30,100 (4)	– <sup>e</sup>	– <sup>e</sup>
<b>DarkBay</b>	24,734 (6)	– <sup>e</sup>	– <sup>e</sup>	23,946 (4)	– <sup>e</sup>	– <sup>e</sup>
<b>Dark0de Market</b>	16,657 (4)	16,657 (4)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>ToRReZ Market</b>	15,034 (3)	15,034 (3)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>White House Market</b>	14,983 (56)	29,080 (4)	28,047 (5)	8,928 (4)	4	226 <sup>g</sup>
<b>Dark Market</b>	11,292 (36)	– <sup>e</sup>	– <sup>e</sup>	11,075 (4)	– <sup>e</sup>	– <sup>e</sup>
<b>World Market</b>	8,833 (1)	8,833 (1)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>Versus Market</b>	5,002 (3)	5,002 (3)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>ASAP Market</b>	3,183 (3)	3,183 (3)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>Vice City</b>	2,944 (2)	2,944 (2)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>Cannazon</b>	1,526 (56)	1,999 (4)	1,859 (5)	1,222 (4)	7.5	64
<b>Cartel Marketplace</b>	1,240 (1)	1,240 (1)	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>	– <sup>f</sup>
<b>Cannahome</b>	516 (48)	632 (4)	620 (5)	– <sup>f</sup>	2	– <sup>f</sup>
<b>Monopoly Market</b>	463 (56)	559 (4)	536 (5)	346 (4)	4	61
<b>Total<sup>h</sup></b>	36,391 (56)	70,332 (4)	31,063 (5)	75,617 (4)	126	-7

<sup>a</sup> Average listing is computed as total number of listings (including interpolated data) in the period divided by the number of weeks when the market was monitored (shown in brackets) in the stated period. Data for weeks with missed scrapes is interpolated if we can scrape data from the cryptomarket at a later date. See [here](#) for information on how interpolated data were computed. <sup>b</sup> A market is monitored from the date we had started scraping it until the last scrape before it closed or before the end of the reporting period, whichever is earlier. Those weeks with missed scrapes were included in the count of the number of weeks monitored. <sup>c</sup> Relative market size change is computed as % change in average number of weekly listings observed in the stated months (e.g., from May in one year to May in the next year). <sup>d</sup> There were 56 weeks during the period from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021, and only Monopoly Market, Cannazon and White House Market were monitored over the whole of that period. Other cryptomarkets were not monitored for the whole of the 13-month period because their first scrape started after the first scrape on 7<sup>th</sup> May 2020 and/or the market closed before the last scrape on 27<sup>th</sup> May 2021 (see [Table 1](#) for start and end dates of monitoring). <sup>e</sup> Dark Market, DarkBay and Empire Market had closed before April 2021. <sup>f</sup> Cannahome had not yet started in May 2020. Vice City, ASAP Market, Versus Market, World Market, Dark0de Market and ToRReZ Market have been operational since February-July 2020, based on analysis of relevant market discussion posts on Dread, a dark web forum but we have not monitored them before May 2021. <sup>g</sup> Whilst White House Market was growing during the reporting period, the significant increase of 226% is primarily due to the resolution of scraping issues that led to an underestimation of total listings on White House Market prior to April 2021. <sup>h</sup> Given we have not identified and scraped cryptomarkets as exhaustively in the earlier part of the reporting period, the total number of listings in the final row should be considered an underestimate.

The two markets with the greatest average number of listings, Empire Market and DarkBay, ceased operation in July 2020 and June 2020, respectively. After the closure of Empire Market, Dark Market was the largest of the monitored cryptomarkets by number of listings for a brief period in August 2020 ([Figure 2](#)). From 24<sup>th</sup> September 2020, White House Market overtook Dark Market in number of listings and continued to have more listings than other monitored markets until the end of the reporting period on 31<sup>st</sup> May 2021.

During the reporting period of 56 weeks (from May 2020 to May 2021), the average number of drug listings per weekly scrape across all monitored cryptomarkets was 36,339 ([Table 2](#)). Given we have not identified and scraped cryptomarkets as exhaustively in the earlier part of the reporting period, the total number of listings in the final row of [Table 2](#) should be considered an underestimate.

### **Comparison to previous month**

Overall, there was an average of 70,332 drug listings per weekly scrape summed across all the monitored markets in the final month of reporting (May 2021; [Table 2](#)). This equated to a 126% increase in the average total number of listings (i.e., ‘*relative change in total market size*’) compared to the previous month of April 2021 (average of 31,063 drug listings per weekly scrape). We note, however, that we only started scraping seven of the cryptomarkets (Dark0de Market, Cartel Marketplace, Vice City, ASAP Market, Versus Market, World Market and ToRRReZ Market) in May 2021, despite their existence as far back as early 2020. In other words, the relative increase is likely an artefact of missed scrapes in the month of April for these seven markets.

Within each market, the relative change in number of listings (i.e., ‘*relative change in individual market size*’) in the final month of reporting compared with the previous month varied between 8% (Cannazon) and 2% (Cannahome). This relative change compared to the previous month cannot be measured for the seven cryptomarkets mentioned earlier, as their monitoring only commenced in May 2021. As such, the relative change is only provided for Cannazon, White House Market, Monopoly Market, and Cannahome.

### **Comparison to same month in the previous year**

Relative to the same month in the year prior, May 2021 saw a 7% decrease in average weekly listings as compared to May 2020, with the latter having 75,617 average weekly listings across all monitored cryptomarkets. While three relatively large cryptomarkets closed during this period (Dark Market, DarkBay and Empire Market; see [Table 1](#)), the

initial reduction in listings appears to have been largely replaced by listings on the new cryptomarkets recently monitored. Dark0de Market, ToRReZ Market and World Market had average weekly listings of 16,657, 15,034 and 8,833, respectively. These figures are similar to two of the closed markets, DarkBay and Dark Market, which had average weekly listings of 11,967 and 10,207, respectively, during the total monitoring period (**Table 1**).

White House Market was the largest cryptomarket of note that was monitored in the last month of the reporting period. It had been scraped from 9<sup>th</sup> January 2020 and showed steady growth with minimal downtime. It increased by 226% from an average of 8,928 drug listings in May 2020 to an average of 29,080 drug listings in May 2021 (**Figure 2** and **Table 2**). As can be seen in **Figure 2**, White House Market was not scraped for 2 weeks after 20<sup>th</sup> March 2021. On 20<sup>th</sup> March 2021, there were 15,076 listings. Technical issues meant the next scrape was completed on 8<sup>th</sup> April 2021, which found 29,002 listings on White House Market. This near doubling of listings was due to the resolution of an underlying technical issue in the scrapes prior to April 2021. At the end of the reporting period, the scrape on 27<sup>th</sup> May 2021 found 29,543 listings on White House Market. This reflects the relative market size change of 4% from April 2021 to May 2021. Hence, whilst White House Market was growing during the reporting period, the significant increase of 226% is primarily due to the earlier scraping issues that led to an underestimation of total listings on White House Market prior to April 2021.

## Substance Availability

Market listings captured through cryptomarket monitoring have been categorised into drug classes according to this [methodology](#).

Cannabis comprised the bulk of the listings identified across all markets over the total period of reporting (29%), followed by MDMA (12%), cocaine (9%), benzodiazepines (8%), meth/amphetamine (illicit) (6%), and LSD (6%) (see **Table 3** and **Figure 3**). New psychoactive substances comprised 4% of listings, although challenges in their categorisation must be noted (see [methods](#) for further detail).

The percentage of drug listings across all markets disaggregated by drug (i.e., the ‘*market share*’ for each drug) was relatively stable, with <5% change in market share for each drug across all markets when comparing the percentage of all listings observed in May 2021 versus May 2020 (**Figure 3** and **Table 3**).

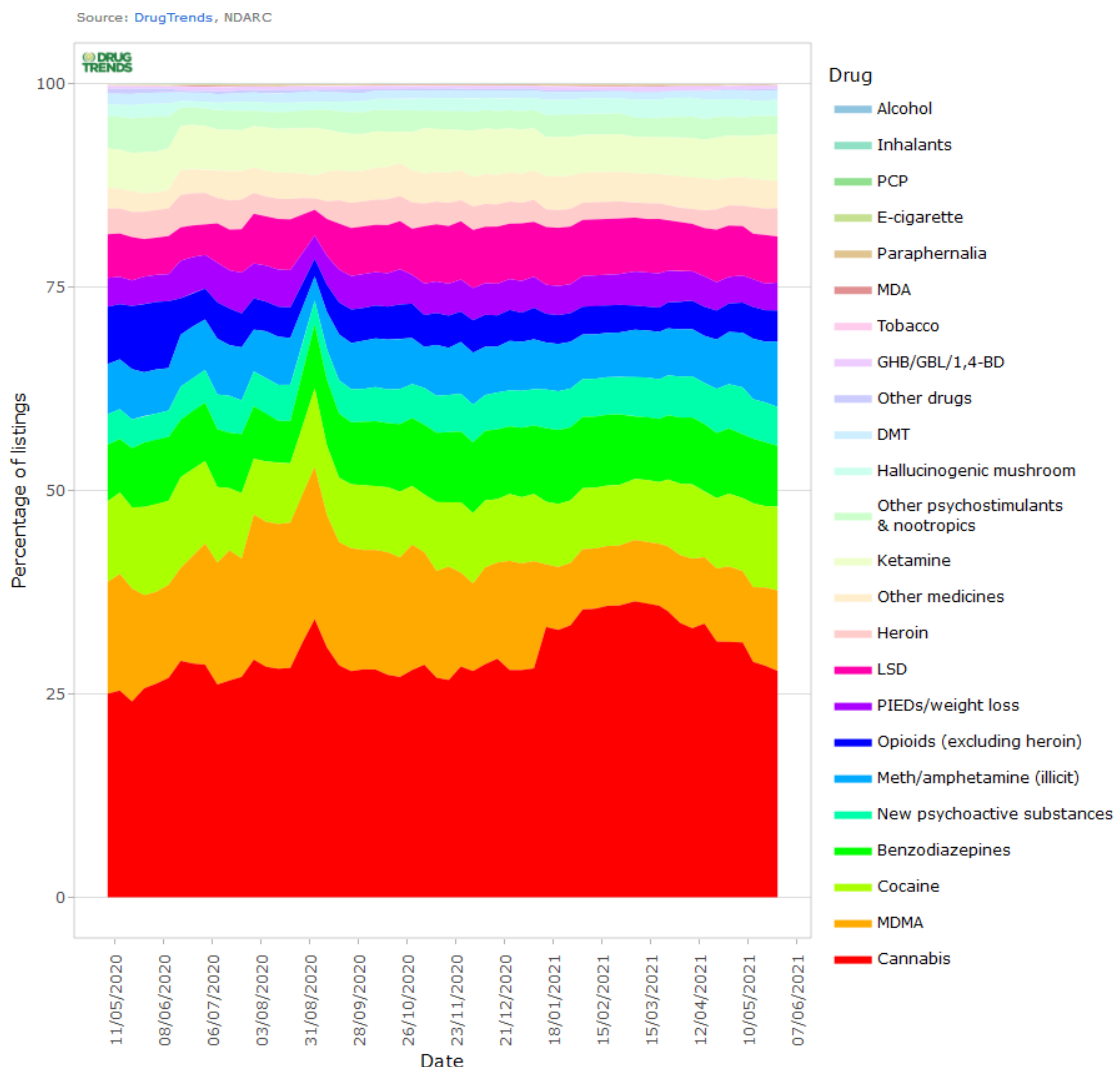
Please refer to our [methodology document](#) for an explanation of the measures of change described in this section. It is also important to note that these figures include interpolated data as per the [methodology](#).

**Table 3. Breakdown of total listings by drug class from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021 (in descending order by market share in the 13-month reporting period)**

Drug	Market share <sup>a</sup> (% of listings)		Difference in market share % <sup>b</sup>		Market size (average listings per weekly scrape) per May 2021 <sup>c</sup>	Relative % change in market size <sup>d</sup>	
	May 2020 - May 2021	May 2021	Apr 2021 to May 2021	May 2020 to May 2021		Apr 2021 to May 2021	May 2020 to May 2021
<b>Cannabis</b>	29	29	-5	4	20,295	94	7
<b>MDMA</b>	12	9	0.9	-4	6,651	151	-34
<b>Cocaine</b>	9	10	2	-0.2	7,046	169	-9
<b>Benzodiazepines</b>	8	8	-0.3	0.6	5,458	118	0.4
<b>Meth/amphetamine (illicit)</b>	6	8	2	2	5,289	196	17
<b>LSD</b>	6	6	-0.2	0.6	4,075	118	4
<b>Ketamine</b>	5	5	0.6	0.6	3,840	153	4
<b>Opioids (excluding heroin)</b>	5	4	0.4	-4	2,696	153	-53
<b>New psychoactive substances</b>	4	5	-0.1	1	3,506	122	31
<b>PIEDs/weight loss<sup>e</sup></b>	4	3	-0.3	<0.1	2,366	110	-6
<b>Other medicines</b>	3	3	-0.3	1	2,446	108	32
<b>Heroin</b>	3	3	1	<0.1	2,251	258	-6
<b>Other psychostimulants &amp; nootropics</b>	3	2	-0.2	-2	1,638	109	-48
<b>Hallucinogenic mushroom</b>	2	2	-0.4	0.4	1,387	89	19
<b>DMT</b>	1	1	0.2	-0.2	817	178	-20
<b>Total<sup>f</sup></b>	<b>100</b>	<b>100</b>	<b>-</b>	<b>-</b>	<b>70,332</b>	<b>126</b>	<b>-7</b>

Note: All estimates in table have been computed using interpolated data. See [here](#) for information on how interpolated data were computed. Each column is colour coded to highlight the lowest numbers in green, the mid-range numbers in yellow and the highest numbers in purple, following the colour scale range. <sup>a</sup> This column displays the percentage of total listings across all marketplaces observed in the stated period. <sup>b</sup> These columns display the change in percentage of total listings attributed to each drug across all marketplaces in the stated months (e.g., from May in one year to May in the next year). <sup>c</sup> This column displays the average number of weekly listings observed across all marketplaces in the month of May 2021. <sup>d</sup> These columns display the relative change in the average number of weekly listings observed in the stated months (e.g., from May in one year to May in the next year). <sup>e</sup> PIEDs: performance and image enhancing drugs. <sup>f</sup> The total row includes all drug listings presented in our Bulletin including those not shown in this table. Alcohol, Inhalants, E-cigarette, PCP, Tobacco, MDA, Paraphernalia and Other drugs are not shown in this table due to small values. Each of their percentage contribution over the reporting period was <0.5%.

**Figure 3.** Percentage breakdown of listings by drug class over time from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021.



Note: Complete interactive visualisation available [here](#). Missing data are interpolated in this figure. See [here](#) for information on how interpolated data were computed.

### Comparison to previous month: Drug market share

Across the monitored cryptomarkets, the largest changes observed in May 2021 compared to April 2021 were a 2% decrease in market share for both meth/amphetamine (illicit) and cocaine, and a 5% decrease in market share for cannabis (**Table 3** and **Figure 3**). This 5% decrease in market share is a function of a decrease in the percentage of scraped cryptomarkets that are cannabis-specific, arising from the scraping commencement of seven 'general' cryptomarkets.



### ***Comparison to same month in the previous year: Drug market share***

Among the monitored cryptomarkets, cannabis had the biggest increase (4%) in market share in May 2021 (29%) versus May 2020 (25%). However, it is important to consider that two of the markets across the reporting period were cannabis-predominant. If the additional markets identified in May 2021 had been scraped throughout the reporting period of interest, they would have likely changed these findings. The biggest decreases were observed for MDMA with a 4% decline in May 2021 (9%) versus May 2020 (13%), and for opioids (excluding heroin) with a decrease of 4% from May 2020 (7%) to May 2021 (3%). In the [last Bulletin](#) (January 2020-January 2021), cannabis also saw the biggest increase (4.0%) in market share in January 2021 compared with January 2020, and MDMA had the biggest decrease (-4.5%) ([Table 3](#) and [Figure 3](#)). Opioids (excluding heroin) had a more notable decline compared to the last Bulletin, when they only decreased by 1.9% from January 2020 to January 2021.

### ***Comparison to previous month: Drug market size***

Compared with the 126% relative increase in total number of listings across all monitored markets in May 2021 versus April 2021, the drugs below had a larger increase in average weekly listings ([Table 3](#) and [Figure 4](#)):

- Heroin (258% increase to 2,251 listings);
- Meth/amphetamine (illicit) (196% increase to 5,289 listings);
- DMT (178% increase to 817 listings);
- Cocaine (169% increase to 7,046 listings);
- Opioids (excluding heroin) (153% increase to 2,696 listings); and
- Ketamine (153% increase to 3,840 listings).

### ***Comparison to same month in the previous year: Drug market size***

In terms of change in the absolute number of listings per drug across all monitored markets in the month of May 2021 as compared to May 2020, all drug categories saw a decrease. It should be noted that there was an overall 7.0% decrease in number of drug listings for May 2021 versus May 2020 ([Table 3](#) and [Figure 4](#)).

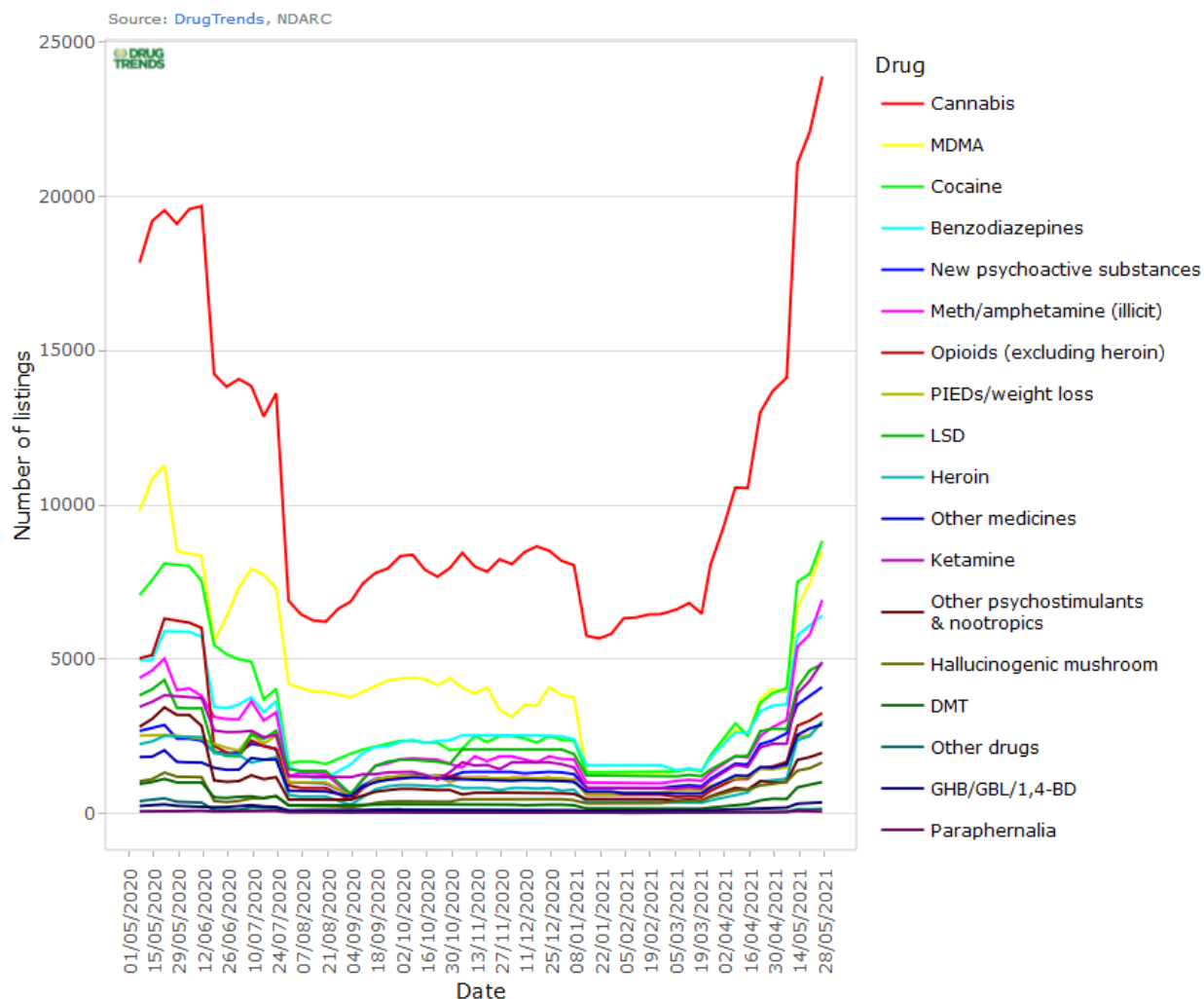
The drug classes with the largest decreases observed in this time period were:

- Opioids (excluding heroin) (53% decrease to 2,696 listings);

- Other psychostimulants & nootropics (48% decrease to 1,638 listings);
- MDMA (34% decrease to 6,651 listings);
- DMT (20% decrease to 817 listings).

Other medicines and new psychoactive substances had the largest increases in this time period, increasing by 32% (to 2,446 listings) and 31% (to 3,506 listings), respectively.

**Figure 4. Number of listing disaggregated by drug for all markets from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021.**



Note: Missing data are interpolated in this figure. See [here](#) for information on how interpolated data were computed. Alcohol, e-cigarettes, inhalants, MDA, tobacco and PCP have not been included in the figure. These drug classes had fewer total number of listings in the 13-month reporting period than paraphernalia. To view these data see our [interactive visualisation](#). NB: Given we have not identified and scraped cryptomarkets as exhaustively in the earlier part of the reporting period, the number of listings should be considered an underestimate.

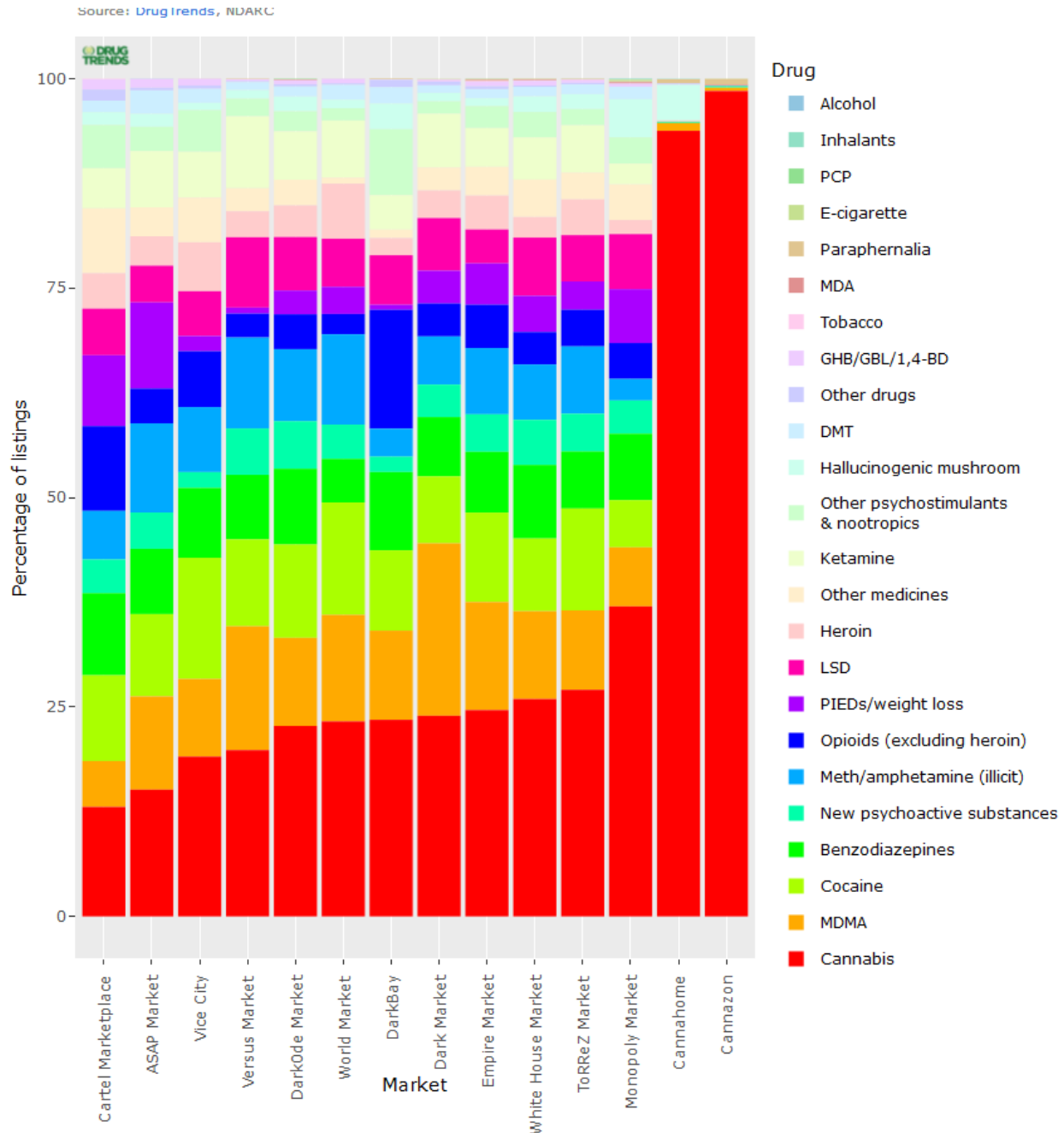
### *Composition of markets by drug type in the reporting period from May 2020 to May 2021*

**Figure 5** shows the breakdown of listings by drug type per market during the 13-month reporting period. The analysis shows that most markets monitored listed an array of different drugs, although listings for two markets (Cannahome and Cannazon) comprised >90% cannabis. There was some variability in the market share attributed to each drug across markets. As identified in the [last Bulletin](#), DarkBay had a greater proportion of its listings as opioids (excluding heroin; 14% compared with the overall of 5% from **Table 3**) and other psychostimulants and nootropics (8% versus the overall of 3% from **Table 3**) during the reporting period from May 2020 to May 2021.

DarkBay's proportion of opioids listings (excluding heroin) was the highest of any of the cryptomarkets during the reporting period, while the newly monitored markets in May 2021 demonstrated higher proportions of cocaine and meth/amphetamine (illicit). Vice City, World Market and ToRReZ Market had the highest proportion of cocaine listings across the cryptomarkets (14%, 13% and 12%, compared with the overall of 9.0% from **Table 3**). In regard to meth/amphetamine (illicit) listings, Versus Market, World Market and ASAP Market had the highest percentages (11% each, compared with the overall of 6% in **Table 3**).

Historically, the percentage of PIEDs/weight loss listings has been below 6% across monitored markets. Of the newly monitored markets in May 2021, both ASAP Market and Cartel Marketplace had the highest percentages of PIEDS/weight loss listings (10% and 8%) of any market in the past four Bulletins. Interestingly, Cartel Marketplace also had the lowest cannabis proportion of any market during the reporting period at 13%. Further, it had the highest proportion of other medicines (8%) and the second-highest percentage of other psychostimulants and nootropics (5%). Given Cartel Marketplace was the 'newest' market by scrape commencement date, future scrapes may help elucidate whether this reflects a broader shift towards such drug types across markets. Alternatively, this may simply be a point of marketplace differentiation by drug types, for Cartel Marketplace specifically.

**Figure 5.** Drug composition of markets monitored from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021.



Note: See Figure 1 and our [interactive timeline](#) for the duration of reporting each market. This figure displays drug class percentage of all listings observed from 1<sup>st</sup> May 2020 to 31<sup>st</sup> May 2021 for each marketplace monitored. Missing data are interpolated in this figure. See [here](#) for information on how interpolated data were computed. Cannahome and Cannazon are cannabis-specific cryptomarkets.

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## Related Links:

Data visualisations: <https://drugtrends.shinyapps.io/cryptomarkets>

Methods document: <https://ndarc.med.unsw.edu.au/resource/methods-trends-cryptomarket-drug-listings>

For more research from the Drug Trends program go to: <https://ndarc.med.unsw.edu.au/program/drug-trends>

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