



Trends in the availability and types of drugs sold on the internet via cryptomarkets, February 2022 - January 2023

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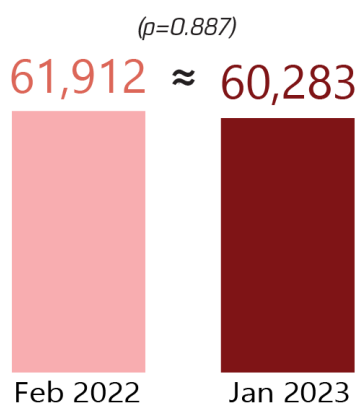
In the period from 1st February 2022 to 31st January 2023, 21 cryptomarkets were monitored.



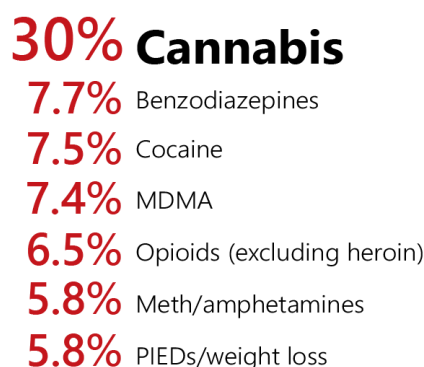
5 markets closed and 5 new markets were monitored from February 2022 to January 2023.

- 1** DarkFox
- 2** ASAP
- 3** Bohemia
- 4** Incognito

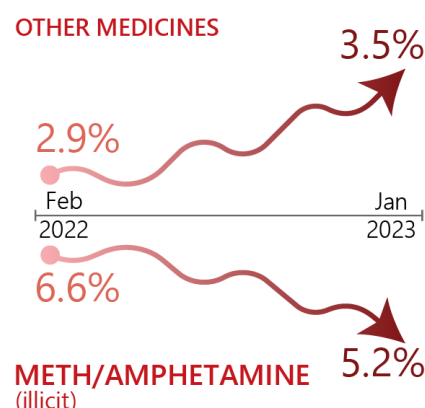
The largest cryptomarkets in the final month of monitoring (January 2023).



The average number of drug listings decreased from February 2022 to January 2023 but the change was not statistically significant.



Top 7 drugs across cryptomarket listings from February 2022 to January 2023.



The market share of other medicines showed the highest rate of increase while the greatest rate of decrease was observed for meth/amphetamine.

Key Findings

- From 1st February 2022 to 31st January 2023, 21 cryptomarkets were monitored, of which five closed before the end of the reporting period. We began monitoring five new cryptomarkets during this period.
- The three markets reaching more than 10,000 listings in a snapshot during this period were DarkFox, Dark0de and AlphaBay, of which Dark0de closed before January 2023 due to an exit scam.
- In the final month of reporting, DarkFox, ASAP, Bohemia and Incognito were the largest cryptomarkets.
- The number of drug listings decreased from February 2022 to January 2023 but the change was not statistically significant ($p=0.887$). The decrease (in spite of a general increase in individual market sizes) is largely due to the difficulty in accessing markets with persistent DDoS attacks in December 2022 and January 2023.
- Cannabis comprised the greatest percentage of drug listings from February 2022 to January 2023 (30%), followed by benzodiazepines (7.7%), cocaine (7.5%), MDMA (7.4%), opioids (excluding heroin) (6.4%), meth/amphetamine (illicit) (5.8%) and PIEDs/weight loss drugs (5.8%).
- The market share of other medicines showed the highest rate of increase from 2.9% in February 2022 to 3.5% in January 2023. The greatest rate of decrease in market share was observed for meth/amphetamine (illicit) from 6.6% in February 2022 to 5.2% in January 2023.



Note: The five cryptomarkets that closed before 31st January 2023 are in grey color font.

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Background



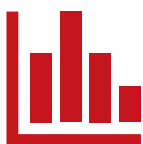
This bulletin series reports on trends in the availability and types of drugs sold on the internet via cryptomarkets over the last 12 months (a new bulletin is released typically every 4 months). The current bulletin focuses on analysis of drug listings on cryptomarkets from 1st February 2022 to 31st January 2023.

[Drug Trends](#) have identified, crawled (or 'scraped'), extracted, categorised and analysed drug listings on cryptomarkets on a regular basis since 1st January 2014, formerly using VBA programming processes, and since 9th 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), individual listings are then categorised according to a pre-specified drug classification structure. Drug categorisation is carried out through rules-based 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 online marketplaces that facilitate the purchasing of illicit goods and services via multiple sellers, and provide their users with anonymity via its location on the hidden web. Licit products (e.g., alcohol, paracetamol) may occasionally be traded on these platforms.
- A **snapshot** of the cryptomarkets is taken on a twice monthly basis, in the two weeks starting on the 1st and 15th of each month.
- **Number of listings** is the sum of listings per snapshot belonging to a specific market and/or drug class. For this measure, duplicate listings (defined as listings with identical names by a single vendor on a single market within the same snapshot) are removed. Listings are further deduplicated for quantity variants (see **section 5.2.1** in the [Methods](#) document).
- **Market size** is defined as the number of drug listings per snapshot, overall, by market or by drug class.
- **Market share** is defined as the percentage of total drug listings by drug class.
- **Average monthly percent change (AMPC)** is the relative percent change in number or percentage of listings per month estimated using the Joinpoint regression program ([National Cancer Institute, 2022](#)).

Our reporting focuses on identified cryptomarkets which comply with the following: presented in English; have an accessible Tor link for scraping; have >1 vendor; vendors ship to and/or from Australia, or ship to and/or from multiple countries; and have had >100 drug listings. For a historical record of marketplaces monitored by Drug Trends, we refer the reader to our [interactive timeline](#).



An accompanying public [online interactive data visualisation](#) is available, allowing viewers to interact with data collected since February 2014. Data in the current bulletin and the accompanying interactive visualisation are presented as twice monthly snapshots in each of the two weeks starting on the 1st and 15th of each month. We present data on number of listings observed in a given snapshot in the bulletin (see **Panel A**). Please refer to [this interactive visualisation](#) and [this bulletin](#) for the weekly data up until 31st May 2022.

In this bulletin, we provide estimates of change over the 12-month reporting period by estimating average monthly percent change (AMPC) in number or proportion of listings per month. This is done using the Joinpoint regression program ([National Cancer Institute, 2022](#)) as detailed in the [Methods](#) document.

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 this bulletin, we show the date of the first post on a subDread¹ for each monitored market to give an indication of when that market may have started. There can also be challenges in certain periods of time (e.g., distributed denial of service (DDoS) attacks on sites) that prevent a routine scrape of an identified market.

Since our findings do not reflect the total of all cryptomarkets existing in the reporting period, the analysis and estimates in this bulletin should not be used to infer the number of drug listings across all cryptomarkets. Further, they should only be considered a proxy indicator of drug availability: we have not provided any metric that reflects sales or purchasing of drugs via cryptomarkets. 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. Our monitoring is an ongoing process. Refinements to our reporting processes in each bulletin are reported in the accompanying methods document. We welcome feedback and suggestions so that we can continue to improve utility of these data and our reporting on them (contact us at drugtrends@unsw.edu.au).

¹ Dread is a forum on the darkweb that is analogous to Reddit. A subDread is a forum group on Dread. The administrators of a cryptomarket often open a subDread for their cryptomarket. However, the market may not yet be fully functional as there can be several months of web development, beta testing and onboarding of vendors before a market becomes fully operational. Thus, it is likely that monitored cryptomarkets reported on in this bulletin reached our eligibility criteria sometime between their first subDread post and our first scrape.

Findings

Profile of Cryptomarkets from 1st February 2022 to 31st January 2023

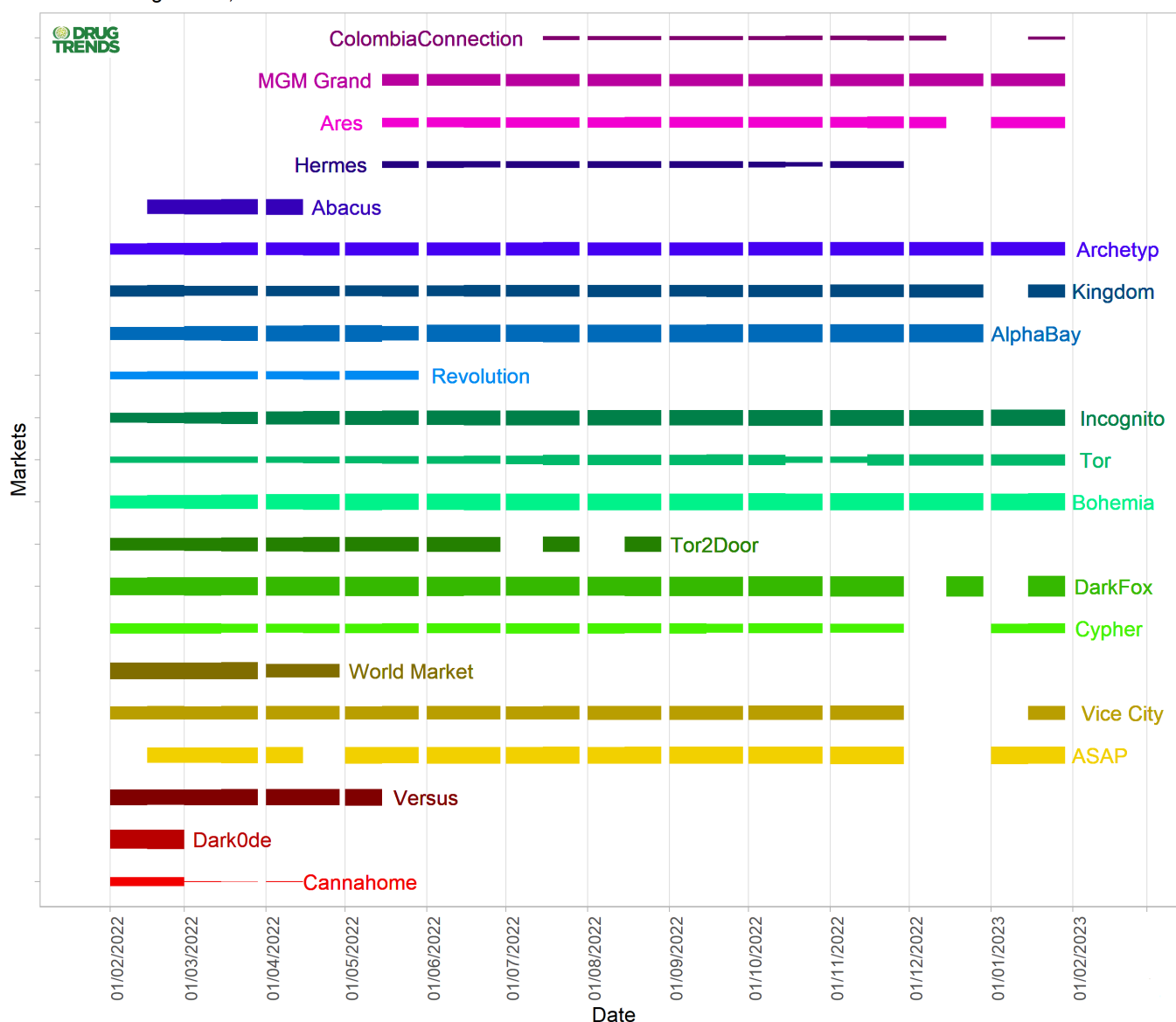
Which markets were monitored during this period?



The current bulletin reports findings for the period 1st February 2022 to 31st January 2023 for 21 cryptomarkets (**Figure 1**). See our [interactive timeline](#) for a historical record of the cryptomarkets monitored since February 2014. **Table 1** shows the characteristics of these cryptomarkets since the date of our first scrape, noting that some cryptomarkets may have existed for some time before we started scraping them.

Figure 1. Markets monitored from February 2022 to January 2023.

Source: DrugTrends, NDARC



Note: There are short breaks at the end of each month because the twice-monthly snapshots are based on 2-week intervals starting on the 1st and 15th of each month, i.e. days of the month after the 28th are excluded from monitoring. Extended breaks indicate periods where market crawling was not achievable or incomplete. The width of the bar is proportional to the log of the number of drug listings observed in each snapshot for each market.

Which markets closed during this period?



Of the 21 markets monitored in this bulletin, five markets were confirmed as closed during the reporting period for the following purported reasons (**Table 1**).

- Dark0de was last scraped in the snapshot of 15th February 2022. Due to an [exit scam](#), the market closed on 24th February 2022 without warning.
- Cannahome was last scraped in the snapshot of 1st April 2022. In early April 2022, Cannahome started closing down, with an [official announcement](#) claiming that it was time for them to “move onto the next phase of their lives”, suggesting a possible voluntary exit.
- World Market was last scraped in the snapshot of 15th April 2022, with online sources suggesting an [exit scam](#).
- Versus was last scraped in the snapshot of 1st May 2022. A [source](#) indicated that it was hacked and a security flaw was exposed on 25th May 2022. The market has been inaccessible since that time and its subDread has been archived.
- Revolution was inaccessible from the middle of May 2022. It is regarded as a closed defunct market with an unknown status as none of our searches on the internet or from our regular sources (e.g. Dread, Tor taxi) had any information on what might have happened.

Since around August 2022, ‘Dread’, the most widely used dark web discussion forum, has been hit with persistent large-scale DDoS attacks, culminating in the Dread administrators’ decision to [take the Dread server offline for restructuring in December 2022](#)². Many markets also could not be accessed from December 2022 to January 2023. Only five markets had complete scrapes after 15th November 2022: these are MGM Grand, Archetyp, Incognito, Tor and Bohemia. Two markets could not be scraped for over a month, but have not been confirmed as ‘closed’ yet. These comprised Hermes which was last scraped in the snapshot of 15th November 2022, and AlphaBay which was last scraped in the snapshot of 15th December 2022. The remaining 12 markets were active and still being monitored at the end of the reporting period. These comprised: ASAP, DarkFox, Vice City, Bohemia, Tor, Incognito, Kingdom, Archetyp, Cypher, Ares, MGM Grand and Colombia Connection (**Table 1**). We stopped scraping Abacus and Tor2Door because the CAPTCHA was too challenging for regular scraping and an access link needed to be purchased, respectively.

² On February 25th 2023, Dread was online again for private testing by service admins and some sub-dread moderators on the production server. It reopened to all users on 6th March 2023.

Table 1. Characteristics of markets reported on in this bulletin (ordered by date of first snapshot).

Market	Status as at Jan 2023 (reported reason ^a)	Earliest subDread post	First snapshot	Last snapshot	Duration in months ^b	Maximum number of listings ^c
Cannahome	<u>Closed</u> (voluntary exit)	15 th Sep 2019	1 st Jul 2020	1 st Apr 2022	21.5	808
Dark0de	<u>Closed</u> (exit scam)	25 th May 2020	15 th Apr 2021 ^d	15 th Feb 2022	10.5	15,632
ASAP	Open	9 th Apr 2020	1 st May 2021 ^d	Ongoing ^e	21*	9,499
Versus	<u>Closed</u> (hacked/ security flaw)	6 th Aug 2019	1 st May 2021 ^d	1 st May 2022	12.5	6,903
Vice City	Open	26 th Aug 2020	1 st May 2021 ^d	Ongoing ^e	21*	3,801
World Market	<u>Closed</u> (exit scam)	14 th Nov 2020	15 th May 2021	15 th Apr 2022	11.5	7,896
Cypher	Open	8 th Feb 2020	1 st Jun 2021	Ongoing ^e	20*	1,203
DarkFox	Open	24 th Feb 2020	1 st Jun 2021 ^d	Ongoing ^e	20*	23,202
Bohemia	Open	23 rd May 2021	15 th Jul 2021	Ongoing ^e	18.5*	8,204
Tor2Door	Ceased data collection	3 rd Jul 2020	15 th Jul 2021	15 th Aug 2022	13.5	5,081
Tor	Open	NA ^f	15 th Aug 2021	Ongoing ^e	17.5*	1,541
Incognito	Open	19 th Oct 2020	1 st Oct 2021	Ongoing ^e	16*	6,024
Revolution	Closed (unknown)	4 th Jun 2020	15 th Oct 2021	15 th May 2022	7.5	773
AlphaBay	Open	8 th Aug 2020	1 st Jan 2022	Ongoing ^e	12*	11,567
Kingdom	Open	3 rd May 2021	1 st Jan 2022	Ongoing ^e	13*	2,602
Archetyp	Open	19 th Apr 2020	15 th Jan 2022	Ongoing ^e	12.5*	3,033
Abacus	Ceased data collection	27 th Sep 2020	15 th Feb 2022	1 st Apr 2022	2	5,256
Ares	Open	26 th Aug 2021	15 th May 2022	Ongoing ^e	8.5*	1,601
Hermes	Open	15 th Apr 2020	15 th May 2022	Ongoing ^e	6.5*	408
MGM Grand	Open	26 th Apr 2021	15 th May 2022	Ongoing ^e	8.5*	2,213
Colombia Connection	Open	3 rd Nov 2020	15 th Jul 2022	Ongoing ^e	6.5*	216

Note: ^a Most probable reason for closure is given in brackets. ^b Duration of monitoring is the number of months between the first and last snapshot, including when data could not be scraped from the cryptomarket. Where the cryptomarket was still active as of last snapshot during the 2 weeks starting 15th January 2023 (indicated by *), the duration has been computed as the number of months between the first snapshot and the snapshot dated 15th January 2023. ^c Maximum number of listings in a scrape is computed from the snapshots over the 12-month reporting period. ^d Markets were operational for some time in 2020 based on analysis of posts on Dread but we have not monitored them before May 2021. ^e Market was active as of the snapshot dated 15th January 2023. ^f The market's subDread could not be found on Dread.

What markets were monitored for the first time during this period?

We began monitoring five cryptomarkets in this period. These are ([Figure 1](#) and [Table 1](#)):

- Abacus from 15th February 2022 (first snapshot);
- Ares from 15th May 2022;
- Hermes 15th May 2022;
- MGM Grand from 15th May 2022; and
- ColombiaConnection from 15th July 2022.

These markets were still active and monitored at the end of January 2023 except for Abacus which we stopped scraping from April 2022 onwards.

Which markets from this period have been monitored for the longest?

Of the 21 markets, Cannahome was the market we had been monitoring for the longest (**Table 1**). First reports of Cannahome on Dread appeared in September 2019 and the scraping began on 1st July 2020. Our last snapshot was on 1st April 2022 (total duration of monitoring: 21.5 months) around which time Cannahome announced that they were “beginning the process of [closing down](#)”. Cannahome was a cannabis-specific cryptomarket reaching a maximum of 808 listings in a snapshot within the current reporting period (**Table 1**). We have not identified the existence of any cannabis-specific markets that met our inclusion criteria since the close of Cannahome.

The next longest-lasting markets monitored within this reporting period were ASAP and Vice City, both of which had a total duration of monitoring of 21 months (**Table 1**). The first reports of ASAP on Dread appeared on 9th April 2020, and the scraping of ASAP began on 1st May 2021. The first reports of Vice City on Dread appeared on 26th August 2020, and the scraping of Vice City began on 1st May 2021. Both ASAP and Vice City are also the longest-lasting markets that were still active at the conclusion of the monitoring period.

Which markets from this period were the largest in size based on number of drug listings?

The markets reaching more than 10,000 listings in a snapshot were (**Table 1**):

- DarkFox with maximum number of listings (in a snapshot) of 23,202;
- Dark0de with maximum number of listings of 15,632; and
- AlphaBay with maximum number of listings of 11,567.



Of these three markets, Dark0de closed due to an exit scam and was no longer scraped after the 15th February 2022 snapshot.

In the final month (January 2023), 12 markets were scraped (**Table 2**). The markets whose mean number of listings per snapshot (including interpolated data for missing scrapes) was above the average of 5,024 listings (60,283/12) in January 2023 were:

- DarkFox with an average of 22,822 listings;
- ASAP with an average of 8,820 listings;
- Bohemia with an average of 7,900 listings; and
- Incognito with an average of 6,022 listings per snapshot.

The smallest of the scraped cryptomarkets with an average of less than 1,000 listings per snapshot in the month of January 2023 were Colombia Connection and Cypher (**Table 2**).

Did the total market size (based on number of drug listings in the 21 monitored markets) change over this period?

The average monthly percent change in market size (or number of listings) decreased over the reporting period. However, that decrease was very small (-0.1% per month) and not statistically significant ($p=0.887$; **Figure 2**; **Table 2**). The total number of listings reached a peak in the snapshot of 15th November 2022 after which many of the markets were affected by heavy DDoS attacks and resulted in a decrease in the number of listings. In particular, AlphaBay, which is a relatively big market with 11,484 listings in the last scrape on 15th

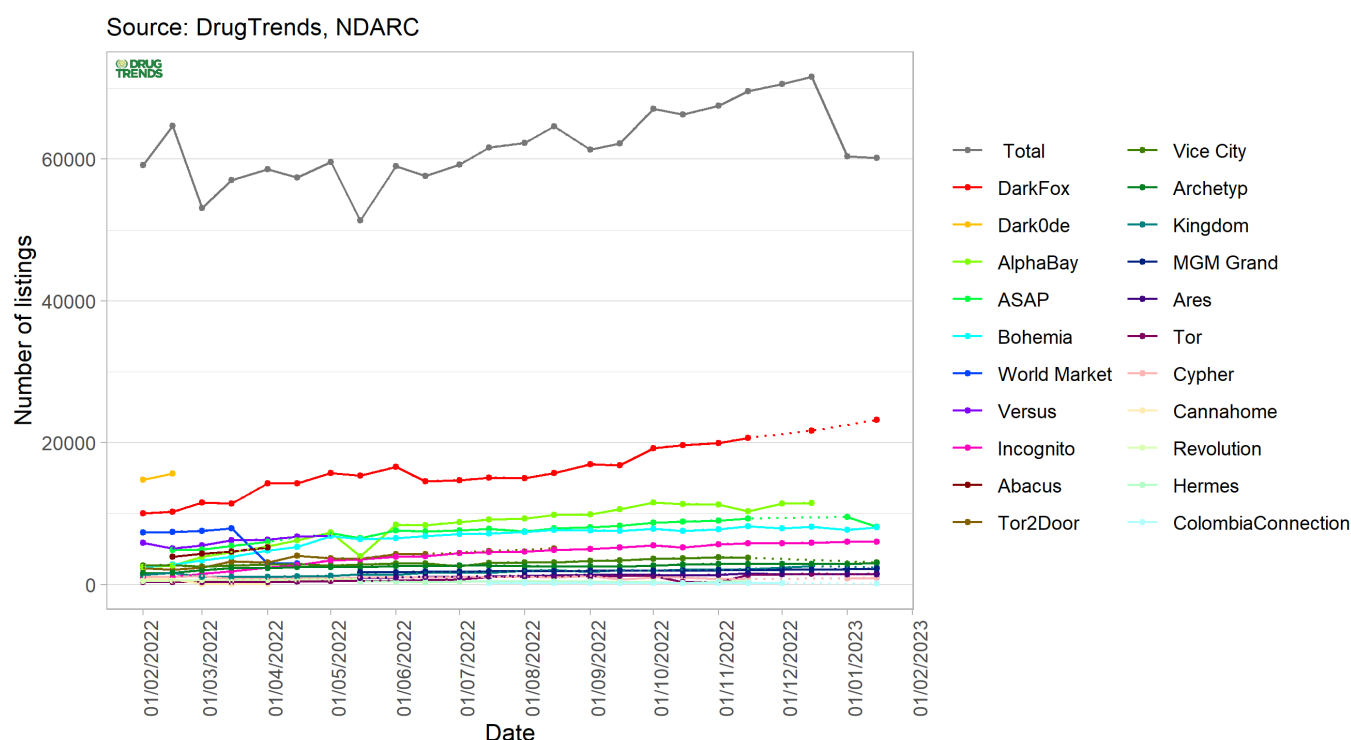
December, could not be accessed in January 2023. Thus, its data could not be interpolated for the analysis of total market size, which likely contributed to the reduction in total market size. While Hermes also could not be scraped in December 2022 and January 2023, it is a relatively small market with only 408 listings in the last scrape on 15th November.

Table 2. Number of drug listings (including interpolated data for missing scrapes) and average monthly percent change (AMPC) on the markets monitored from February 2022 to January 2023.

Market (Number of months ^a)	Market size (Number of listings)				Average monthly percent change	
	First snapshot	Last snapshot	Mean in February 2022 ^b	Mean in January 2023 ^b	AMPC ^c	P ^d
DarkFox (12)	10,008	23,202	10,112	22,822	7.9 (5.2, 10.8)	<0.001
ASAP (12)	4,480	8,140	4,890	8,820	5.6 (3.8, 7.4)	<0.001
Bohemia (12)	2,454	8,070	2,638	7,900	10.9 (9.9, 12.0)	<0.001
Incognito (12)	982	6,019	1,034	6,022	17.8 (16.2, 19.6)	<0.001
Vice City (12)	2,676	3,093	2,716	3,173	1.2 (0.2, 2.3)	0.024
Archetyp (12)	1,568	3,033	1,620	2,948	5.8 (4.7, 7.0)	<0.001
Kingdom (12)	1,384	2,362	1,515	2,422	4.4 (0.1, 8.8)	0.043
Tor (12)	330	1,541	340	1,498	15.6 (2.7, 30.0)	0.016
Cypher (12)	1,098	949	1,098	908	-1.3 (-3.0, 0.5)	0.149
AlphaBay (11)	2,489	11,484	2,578	--	17.5 (11.5, 23.7)	<0.001
MGM Grand (8.5)	1,720	2,213	--	2,182	3.2 (2.8, 3.6)	<0.001
Ares (8.5)	918	1,438	--	1,442	6.0 (4.3, 7.7)	<0.001
Tor2Door (7)	2,341	5,081	2,214	--	14.6 (9.2, 20.2)	<0.001
Hermes (6.5)	406	408	--	--	2.6 (-9.3, 15.9)	0.687
ColombiaConnection (6.5)	175	135	--	148	5.0 (3.3, 6.6)	<0.001
Revolution (4)	502	773	532	--	12.2 (9.4, 15.1)	<0.001
Versus (3.5)	5,900	6,903	5,481	--	8.7 (1.8, 16.0)	0.022
World Market (3)	7,362	2,970	7,378	--	4.7 (-1.2, 11.0) ^e	0.077 ^e
Cannahome (2.5)	781	65	794	--	-- ^{e,f}	-- ^{e,f}
Abacus (2)	3,938	5,256	3,938	--	20.4 (12.3, 29.0)	0.008
Dark0de (1)	14,768	15,632	15,200	--	-- ^f	-- ^f
Total (12)	59,128	60,195	61,912	60,283	-0.1 (-2.0, 1.8)	0.887

Note: ^a Number of months is the number of months between the first and last snapshot in the 12-month period, including when data could not be scraped from the cryptomarket. ^b The mean in the first and last month are calculated as the mean of the number of listings including the interpolated number of listings where there were no data in the intervening data points. ^c Average monthly percent change (AMPC) in number of listings is the estimated percent change in number of listings on the cryptomarket (or market size) per month. Because regular data points are required, intervening data points with no data were interpolated for estimating AMPC. ^d P-values indicate the statistical significance of the estimated AMPC. The estimates that are statistically significant at $P < 0.05$ are highlighted in bold. ^e The last 2 or 3 snapshots for Cannahome, World Market and ColombiaConnection were removed for the computation of AMPC because they were incomplete. ^f The AMPC could not be estimated because there are only two datapoints (last 3 data points were removed for Cannahome because they were incomplete). ^g Note that the estimates in the 'Total' row is derived from total number of listings in the overall market in the period. As such, the estimated mean in market size for individual markets do not add up to the overall in each column. The number of listings including those in the 'Total' row includes interpolated data; as such it is different from the 'Total' row data presented in Table 4 which excludes interpolated data.

Figure 2. Number of drug listings by marketplace from February 2022 to January 2023.



Note: Dashed lines indicate missing scrapes over periods where a market could not be monitored. The dark grey line shows the total number of drug listing across all markets (including interpolated data for missing scrapes within each market). The markets are ordered by maximum number of listings per snapshot over the 12-month period as shown in [Table 1](#).

Did the size of the markets change over the period?

Of the 21 markets, the AMPC of two of them (Dark0de and Cannahome) could not be computed because there were only two valid data points for each of these markets. Sixteen of the remaining 19 markets witnessed a significant increase in number of listings ([Table 2](#)), i.e. except Cypher, Hermes and World Market. Abacus had the greatest increase of 20.4% per month but it only had 2 months of scrapes within the reporting period. This is followed by:

- Incognito with an increase of 17.8% per month over 12 months;
- AlphaBay at 17.5% per month over 11 months;
- Tor at 15.6% per month over 12 months;
- Tor2Door at 14.6% per month over 7 months;
- Revolution at 12.2% over 4 months; and,
- Bohemia at 10.9% per month over 12 months.

Main Drugs Sold via Cryptomarkets from 1st February 2022 to 31st January 2023

What were the main drugs sold via cryptomarkets during this period?

DRUGS

Cannabis comprised the bulk of the listings identified across all markets over the 12-month period (30%) (see [Table 3](#) and [Figure 3](#)). This was followed by:

- benzodiazepines with 7.7% of listings;
- cocaine with 7.5% of listings;
- MDMA with 7.4% of listings;
- opioids (excluding heroin) with 6.4% of listings;
- meth/amphetamine (illicit) with 5.8% of listings; and
- PIEDs/weight loss with 5.8% of listings.

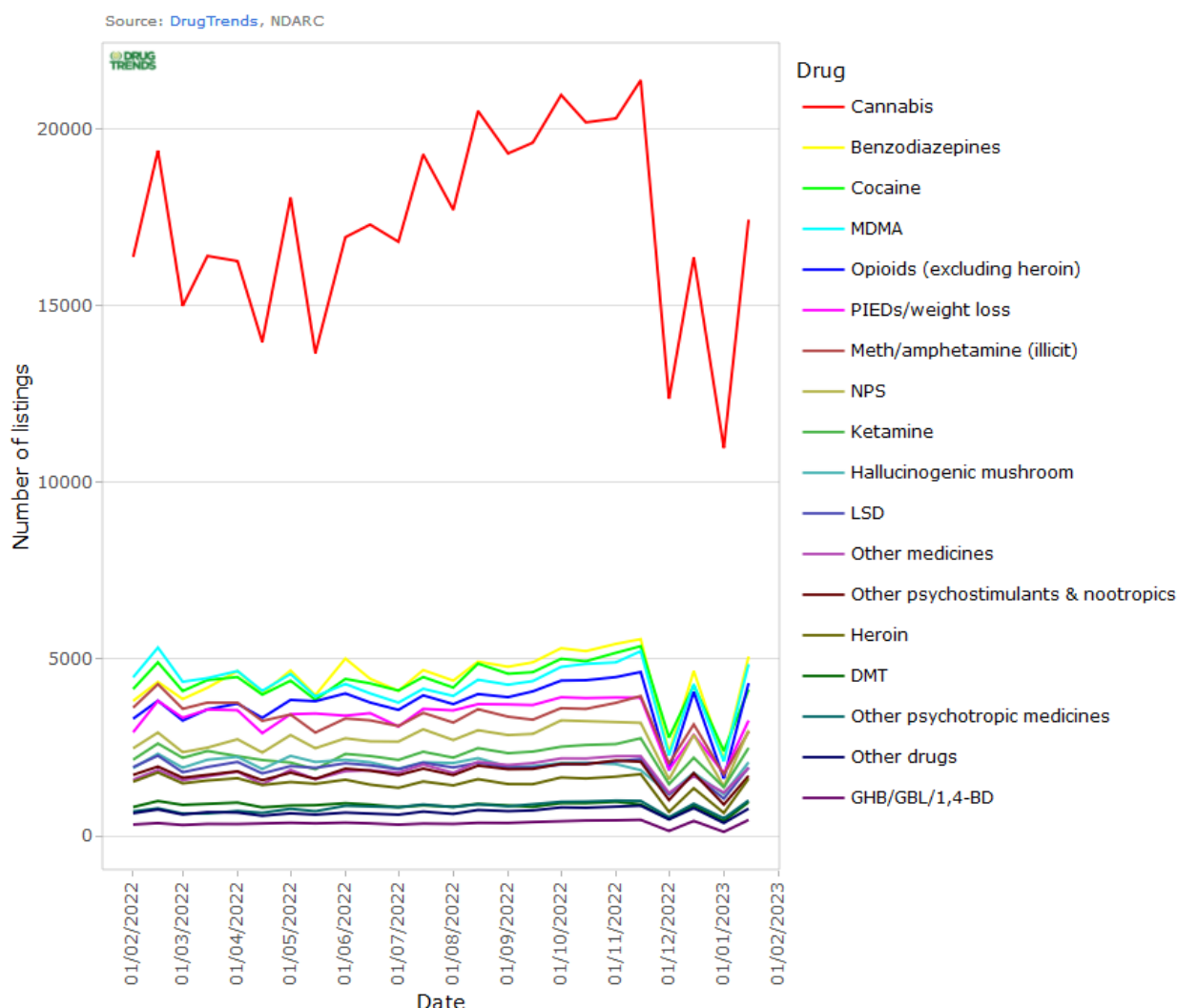
New psychoactive substances (NPS) comprised 4.7% of listings, however it should be noted that the percentage of NPS listings is considerably higher than reported in the [June 2021-May 2022 bulletin](#) because of the revised method of drug categorisation (see **section 5.1.2** in the [Methods](#) document).

Table 3. Market share (percentage of listings) by drug class, and their average monthly percent change (AMPC) from February 2022 to January 2023.

Drug	Market share (percentage of listings) ^a			Average monthly percent change ^b	
	Overall	Feb 2022	Jan 2023	AMPC (%)	P ^c
Cannabis	30	30	32	1.0 (0.3, 1.6)	0.007
Benzodiazepines	7.7	6.9	7.6	1.1 (-0.7, 2.9)	0.253
Cocaine	7.5	7.6	7.2	-0.8 (-1.6, 0.1)	0.086
MDMA	7.4	8.2	7.3	-1.2 (-2.4, 0.0)	0.048
Opioids (excluding heroin)	6.5	6.0	6.1	0.0 (-1.1, 1.1)	0.992
PIEDs^d/weight loss drugs	5.8	5.6	5.5	0.2 (-1.8, 2.2)	0.877
Meth/amphetamine (illicit)	5.8	6.6	5.2	-2.2 (-3.2, -1.3)	<0.001
NPS	4.7	4.5	4.7	0.4 (-0.1, 0.9)	0.099
Ketamine	3.9	4.0	4.2	0.4 (-0.8, 1.5)	0.520
Hallucinogenic mushroom	3.4	3.5	3.6	-0.7 (-2.6, 1.1)	0.442
LSD	3.3	3.5	3.3	-1.2 (-1.7, -0.7)	<0.001
Other medicines	3.2	2.9	3.5	1.3 (0.7, 1.9)	<0.001
Other psychostimulants & nootropics	3.1	3.1	2.8	-1.1 (-2.4, 0.2)	0.104
Heroin	2.5	2.8	2.4	-2.0 (-2.8, -1.1)	<0.001
DMT	1.5	1.5	1.4	-- ^f	-- ^f
Other psychotropic medicines	1.4	1.2	1.6	-- ^f	-- ^f
Other drugs	1.2	1.2	1.2	-- ^f	-- ^f
GHB/GBL/1,4-BD	0.61	0.57	0.55	-- ^f	-- ^f
Overall^e	100	100	100	--	--

Note: ^a Market share is the proportion of the number of listings of the drug as a percentage of the number of all drug listings per snapshot across all marketplaces observed in the stated period. ^b Average monthly percent change (AMPC) in market share is the estimated relative percent change in percentage of listings of the particular drug per month. ^c P-value indicate the statistical significance of the estimated AMPC. The estimates that are statistically significant at P<0.05 are highlighted in bold. ^d PIEDs: performance and image enhancing drugs. ^e The overall row includes all drug listings presented including those not shown in this table. Paraphernalia, MDA, PCP, tobacco, alcohol, e-cigarettes and inhalants are not shown in this table due to small values, with each comprising <0.5% of the overall market share. ^f Estimates of AMPC for market share are not shown where overall percentage of listings of the drug is <2% due to unreliability of estimates.

Figure 3. Number of listings disaggregated by drug class for all markets from February 2022 to January 2023.



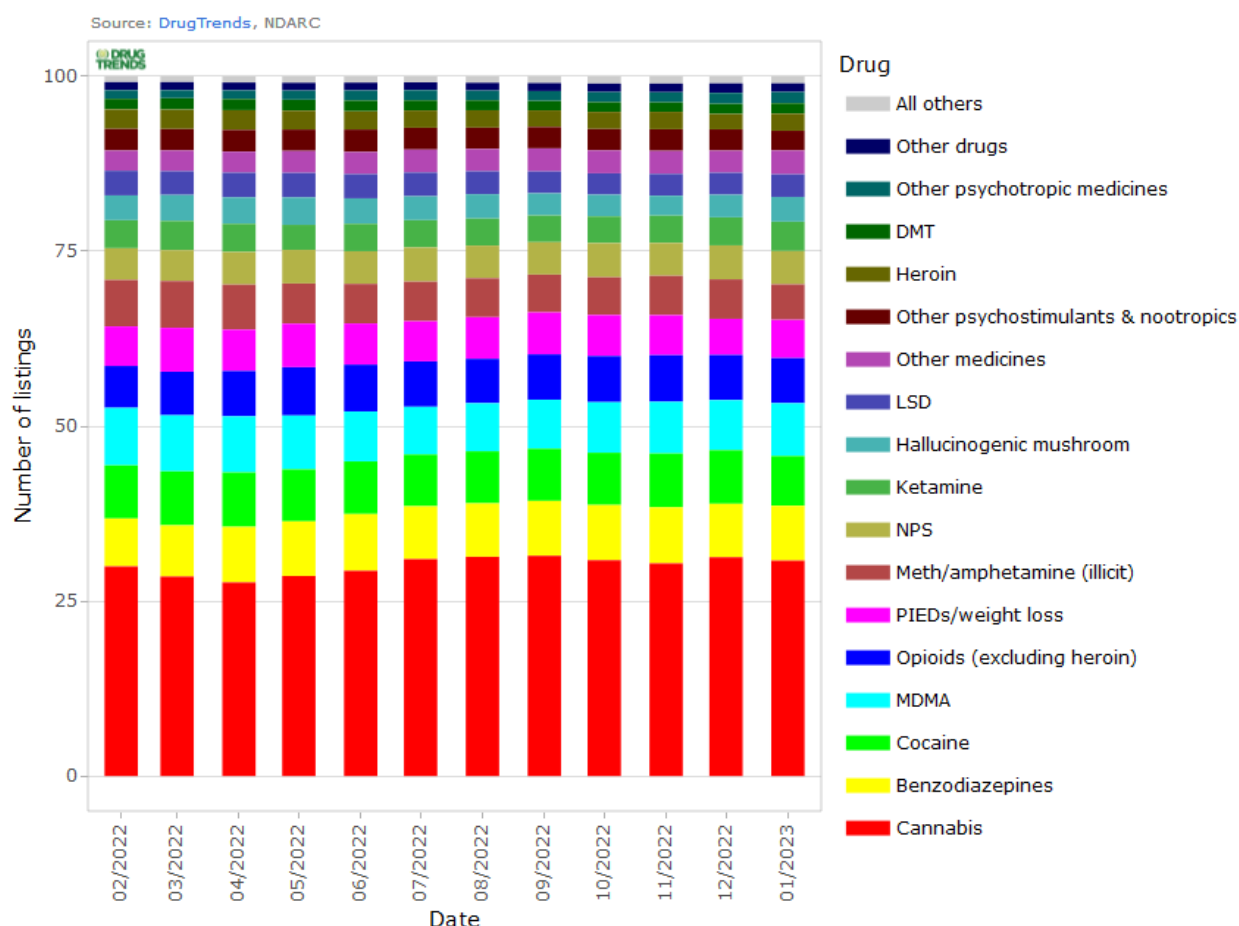
Note: Drug classes that each make up <0.5% of listings over the reporting period are excluded in this figure. These are paraphernalia, MDA, PCP, tobacco, alcohol, e-cigarette and inhalants.

Did the market share of main drugs sold via cryptomarkets change during this period?

Other medicines had the greatest rate of increase in market share from February 2022 to January 2023 (1.3% per month³; 2.9% to 3.5% of all drug listings, respectively; [Table 3](#) and [Figure 4](#)). Cannabis also had a significant rate of increase from 30% to 32% over the 12-month period.

³ Please note that the average monthly percent change (AMPC) of 1.3% per month is estimated as relative percent change in market share of the drug.

Figure 4. Percentage breakdown of listings by month and drug class over time from February 2022 to January 2023.



Note: "All others" comprise of drugs or related products that each make up <0.5% of listings over the reporting period. These are paraphernalia, MDA, PCP, tobacco, alcohol, e-cigarette and inhalants.

Meth/amphetamine (illicit) had the greatest rate of decrease in market share from February 2022 to January 2023 (-2.2% per month from 6.6% to 5.2% of all drug listings, respectively; [Table 3](#) and [Figure 4](#)). The following drugs also had a significant rate of decrease in market share:

- Heroin with a decrease from 2.8% in February 2022 to 2.4% in January 2023; and
- MDMA with a decrease from 8.2% in February 2022 to 7.3% in January 2023;
- LSD with a decrease from 3.5% in February 2022 to 3.3% in January 2023.

Has there been a change in market size (based on the number of listings) for certain drugs over this period?

Only hallucinogenic mushrooms and meth/amphetamine had a significant rate of change (both decreases) in number of listings:

- Meth/amphetamine (illicit) with a decrease of -2.7% per month from 3,959 listings per snapshot in February 2022 to 2,340 in January 2023; and

- Hallucinogenic mushrooms with a decrease of -2.3% per month from 2,120 listings per snapshot in February 2022 to 1,632 in January 2023.

Table 4. Market size (number of listings) by drug class and their average monthly percent change (AMPC) from February 2022 to January 2023.

Drug	Market size (Mean number of listings) ^a			Average monthly percent change ^b	
	Overall	Feb 2022	Jan 2023	AMPC (%) ^a	P ^c
Cannabis	17,353	17,880	14,201	-1.2 (-5.2, 2.9)	0.551
Benzodiazepines	4,442	4,086	3,616	-0.3 (-3.1, 2.6)	0.834
Cocaine	4,333	4,531	3,273	-2.5 (-7.1, 2.2)	0.293
MDMA	4,271	4,906	3,481	-1.9 (-4.4, 0.7)	0.138
Opioids (excluding heroin)	3,733	3,567	2,972	-0.7 (-3.7, 2.4)	0.629
PIEDs^d/weight loss drugs	3,361	3,374	2,516	-3.1 (-7.8, 1.9)	0.223
Meth/amphetamine (illicit)	3,336	3,959	2,340	-2.7 (-4.7, -0.6)	0.015
NPS	2,711	2,704	2,192	-0.3 (-2.8, 2.2)	0.780
Ketamine	2,260	2,383	1,930	-0.6 (-2.6, 1.4)	0.522
Hallucinogenic mushroom	1,977	2,120	1,632	-2.3 (-4.1, -0.6)	0.012
LSD	1,908	2,106	1,494	-1.9 (-3.9, 0.1)	0.058
Other medicines	1,825	1,726	1,572	-0.8 (-4.8, 3.5)	0.718
Other psychostimulants & nootropics	1,765	1,842	1,292	-2.8 (-7.6, 2.2)	0.261
Heroin	1,471	1,662	1,132	-2.7 (-5.5, 0.1)	0.060
DMT	848	900	684	-2.1 (-4.3, 0.3)	0.082
Other psychotropic medicines	798	730	747	1.7 (-0.6, 4.1)	0.148
Other drugs	673	692	566	0.3 (-2.0, 2.7)	0.798
GHB/GBL/1,4-BD	352	341	282	-1.2 (-5.1, 2.9)	0.539
Overall^e	57,605	59,663	46,113	-2.0 (-6.5, 2.6)	0.385

Note: ^a This shows the mean number of listings per snapshot across all marketplaces observed in the stated period. ^b Average monthly percent change (AMPC) in market size is the estimated relative percent change in number of listings of the particular drug per month. ^c P-value indicate the statistical significance of the estimated AMPC. The estimates that are statistically significant at P<0.05 are highlighted in bold. ^d PIEDs: performance and image enhancing drugs. ^e The overall row includes all drug listings presented including those not shown in this table. Paraphernalia, MDA, PCP, tobacco, alcohol, e-cigarettes and inhalants are not shown in this table due to small values, with each comprising <0.5% of the overall market share.

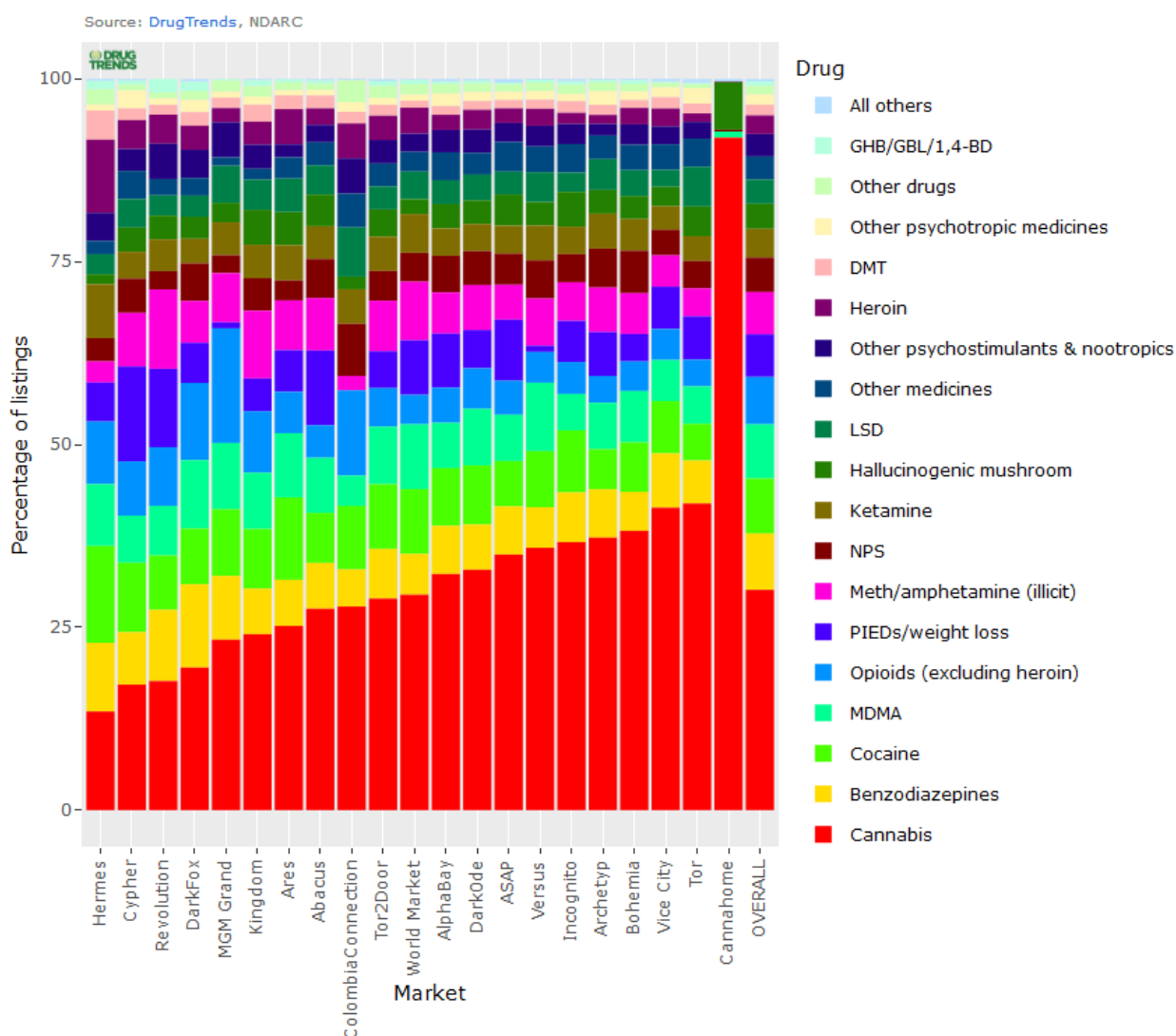
What drugs did the different markets sell over this period?

Figure 5 shows the breakdown of listings by drug class per market during the 12-month reporting period. The analyses shows that most markets monitored listed an array of different drugs. While the cannabis-specific market (Cannahome) comprised >90% cannabis, this closed in April 2022 (see **Table 1**). Outside of Cannahome, the market share of cannabis varied between 13% for Hermes and 42% for Tor. Cannahome also had the largest proportion of hallucinogenic mushroom listings (6.5%, compared with 3.4% of the overall market) (**Table 3**).

DarkFox, which was one of the largest markets in the reporting period, had the highest proportion of benzodiazepines in its listings (11%, compared with 7.7% of the overall market). Compared with other markets, Hermes and Ares had the highest proportion of cocaine listings on their markets (13% and 11%, respectively, compared with 7.5% of the overall market), and MGM Grand, ColombiaConnection and DarkFox had the highest proportion of listings for opioids (excluding heroin) (16%, 12% and 11% compared with 6.5%

of the overall market). Cypher and Revolution had the highest percentages of PIEDS/weight loss drugs listings (13% and 11%, compared with 5.8% of the overall market). ColumbiaConnection had the highest percentage of NPS (7.1%, compared with 4.7% of the overall market) and LSD (6.7%, compared with 3.3% of the overall market) listings. Note, however, that ColumbiaConnection was a small market which we only started scraping on the 15th July 2022. Hermes had the highest proportion of ketamine (7.4%, compared with 3.9% of the overall market), heroin (10%, compared with 2.5% of the overall market) and DMT (4.0%, compared with 1.5% of the overall market) listings.

Figure 5. Drug composition of markets monitored from February 2022 to January 2023 (in ascending order by proportion of cannabis listings, and overall market in last column).



Note: This figure displays drug class percentage of all listings observed from 1st February 2022 to 31st January 2023 for each marketplace monitored. "All others" comprise of drugs or related products that each make up <0.5% of listings over the reporting period. These are paraphernalia, MDA, PCP, tobacco, alcohol, e-cigarette and inhalants.

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Recommended Citation

Man N, Linghu Q, Sutherland R, Bruno R, Barratt MJ, Peacock A. [Trends in the availability and type of drugs sold on the internet via cryptomarkets, February 2022 - January 2023](http://doi.org/10.26190/vj89-8761). Drug Trends Bulletin Series. Sydney: National Drug and Alcohol Research Centre, UNSW Sydney; 2023. Available from: <http://doi.org/10.26190/vj89-8761>

Acknowledgements

We would like to acknowledge the following individuals for their contribution to this project: Anant Mathur, Max Pedersen, Rajat Katyal, Agata Chrzanowska, Dr Amanda Roxburgh, Joe van Buskirk, A/Prof Lucinda Burns, A/Prof Timothy Dobbins, Dr Courtney Breen, Sundresan Naicker and Rosie Swanton.

Related Links

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