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Supplementary Materials for

Trips and neurotransmitters: Discovering principled patterns across 6850 hallucinogenic experiences

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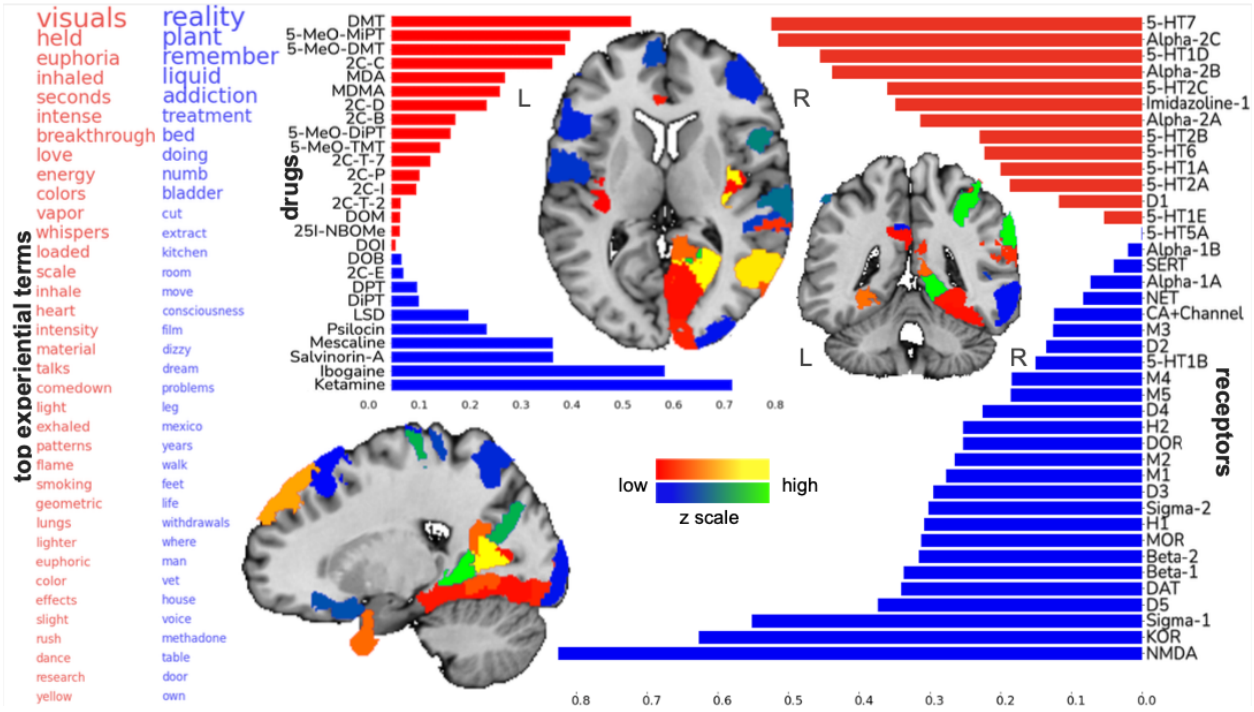
The PDF file includes:

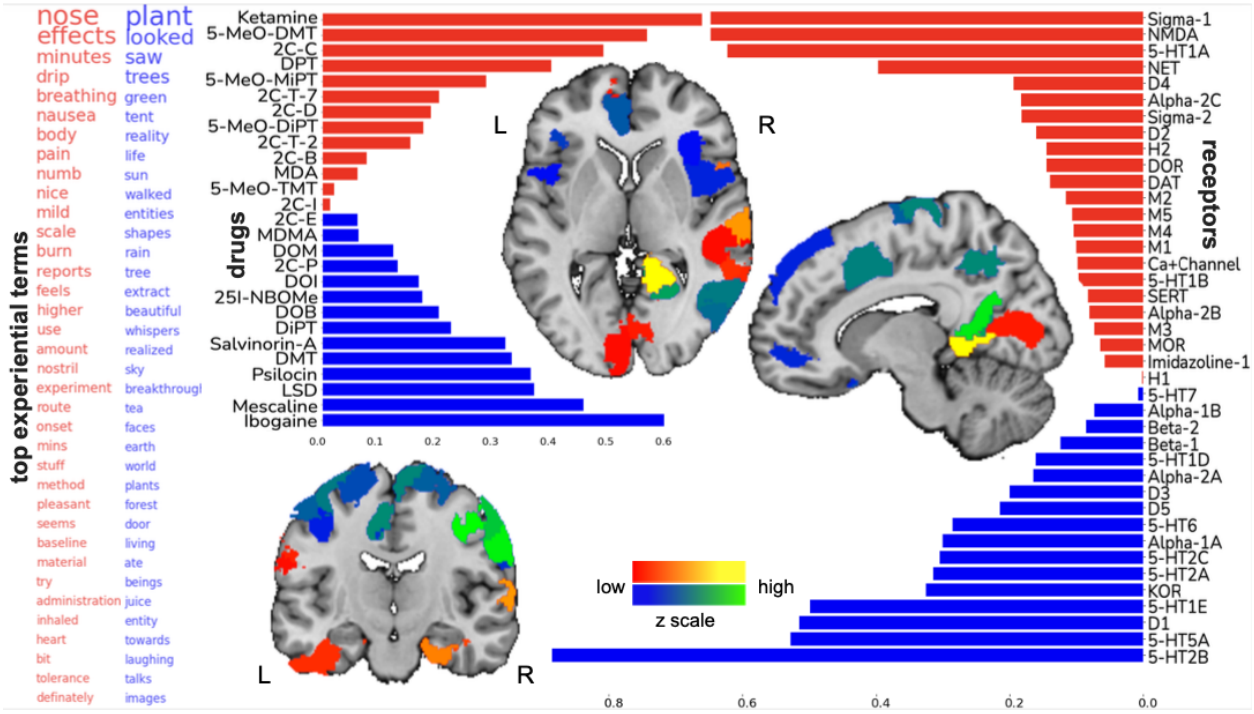
Figs. S1 to S7
Table S2

Other Supplementary Material for this manuscript includes the following:

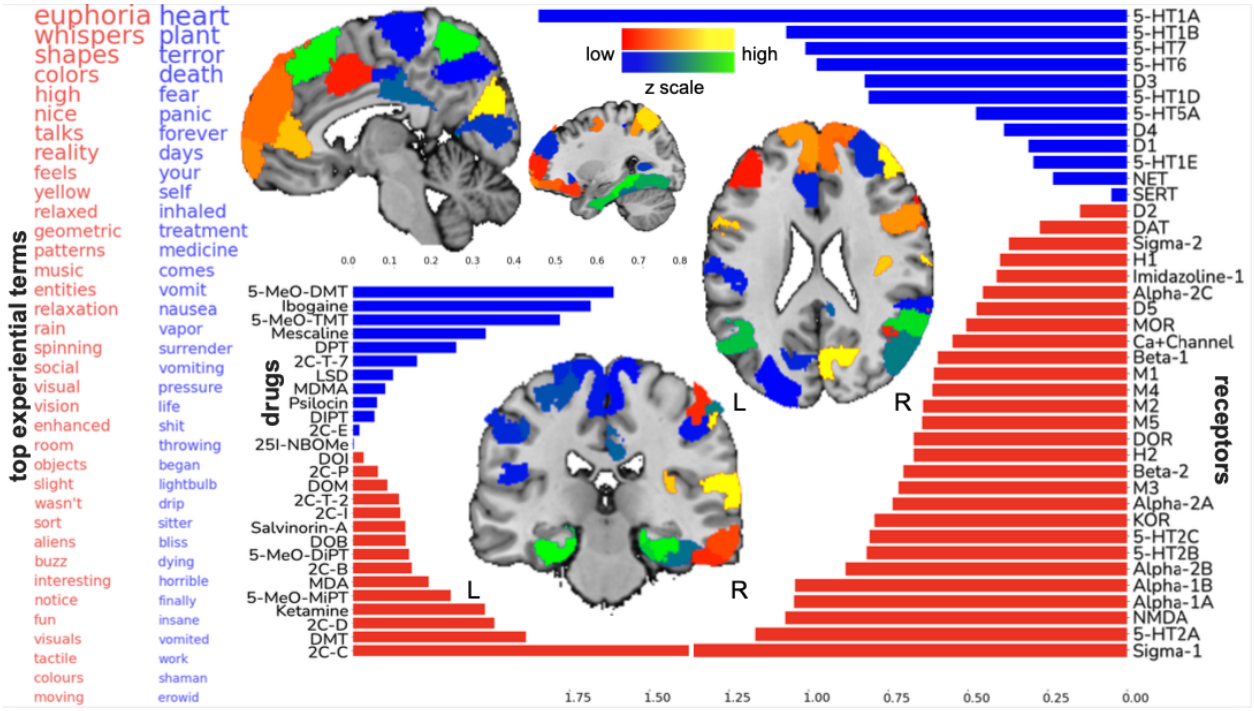
Table S1



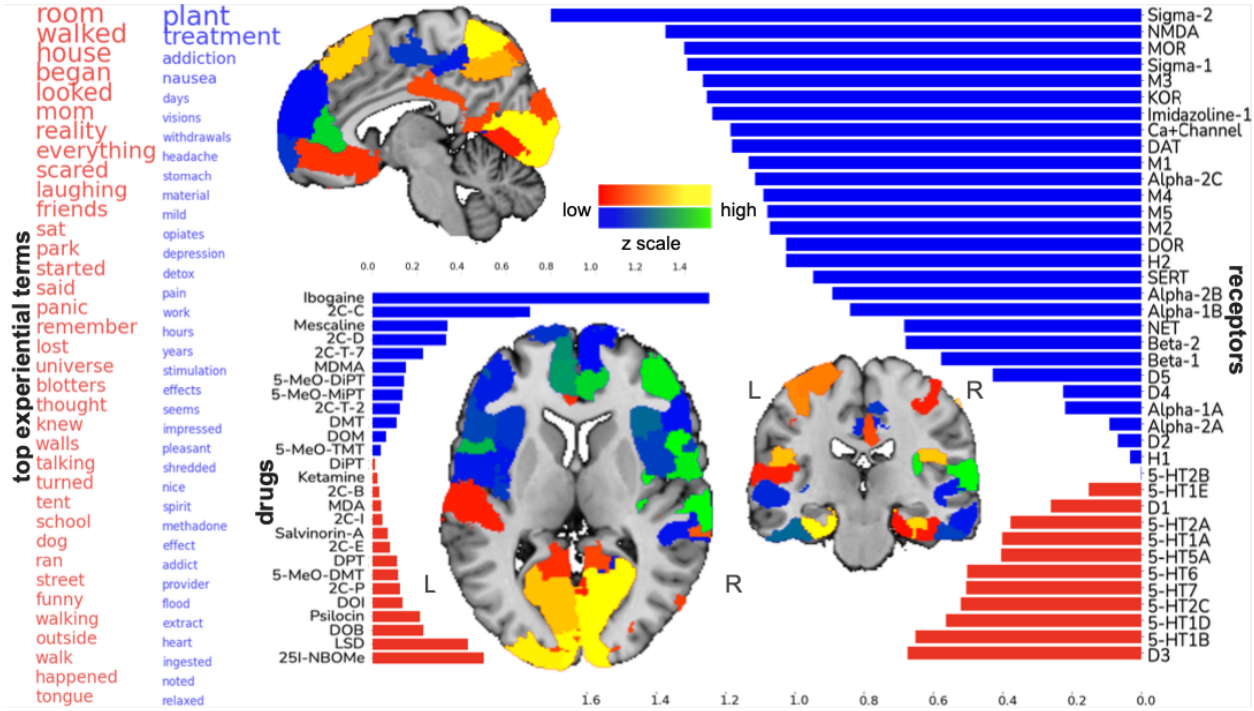
Supplementary Figure 1: The fourth factor underlying hallucinogenic experiences. Sagittal, coronal, and axial brain slices are shown at x=20, y=-43, and z=8 (MNI reference space).



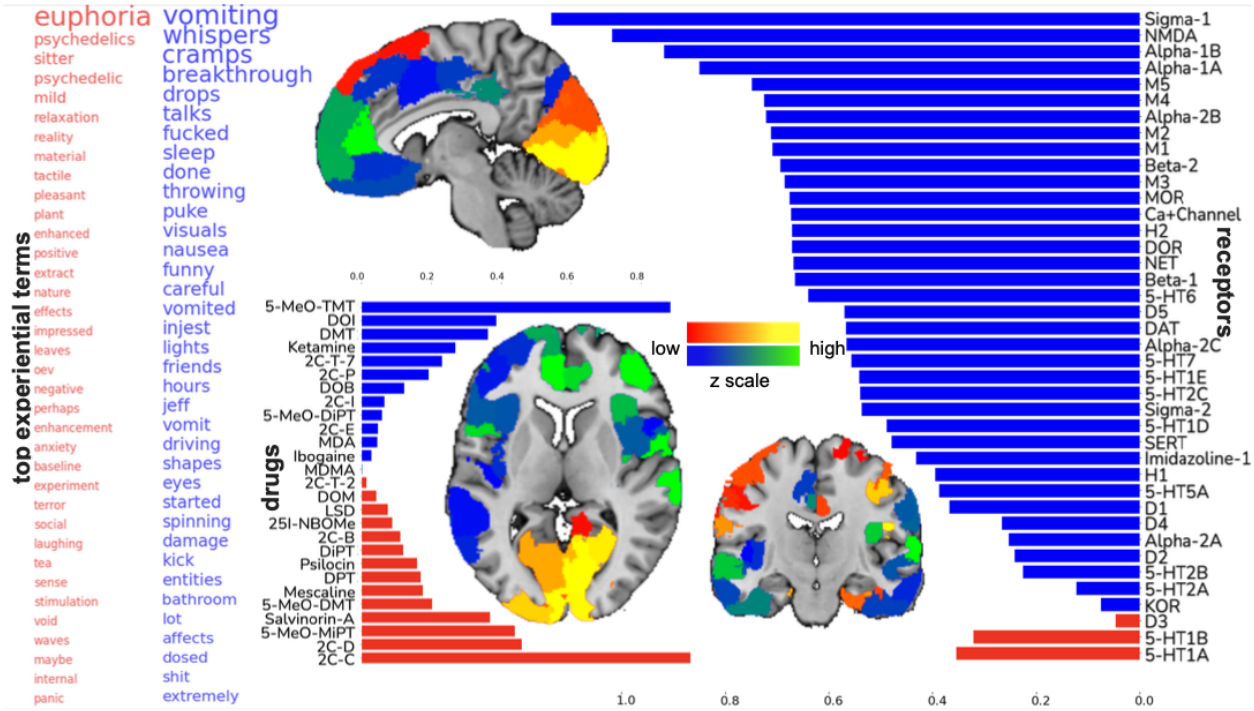
Supplementary Figure 2: The fifth factor underlying hallucinogenic experiences. Sagittal, coronal, and axial brain slices are shown at x=11, y=-15, and z=2 (MNI reference space).



Supplementary Figure 3: The sixth factor underlying hallucinogenic experiences. Sagittal, coronal, and axial brain slices are shown at x=5, 28, y=-26, and z=23 (MNI reference space).

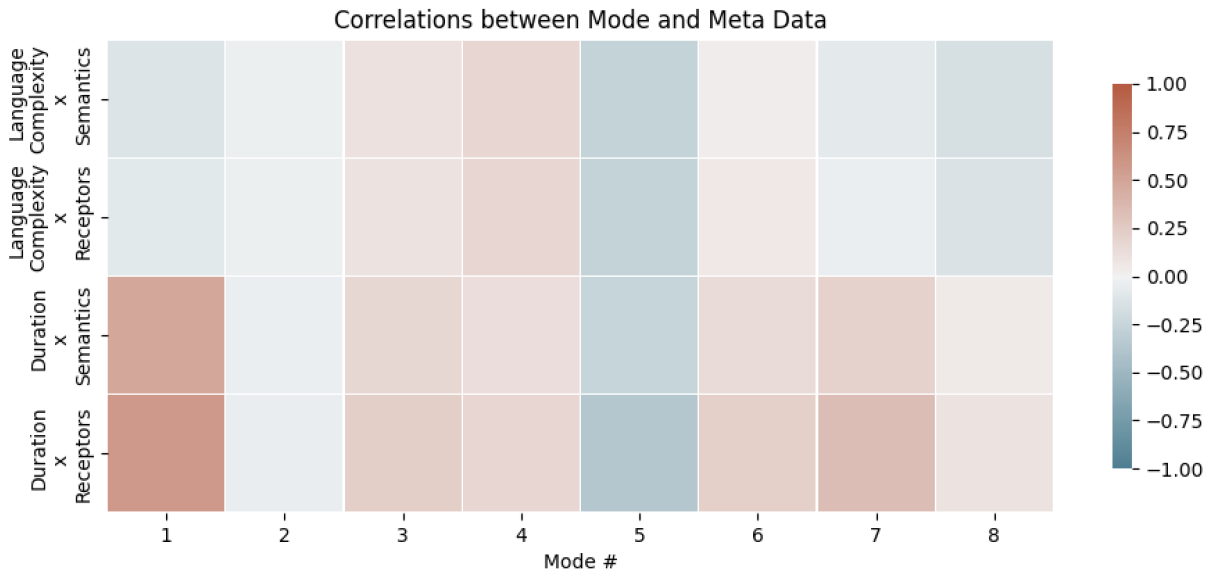


Supplementary Figure 4: The seventh factor underlying hallucinogenic experiences. Sagittal, coronal, and axial brain slices are shown at x=7, y=-23, and z=7 (MNI reference space).



Supplementary Figure 5: The eighth factor underlying hallucinogenic experiences. Sagittal, coronal, and axial brain slices are shown at x=-6, y=-17, and z=6 (MNI reference space).

Supplementary Figure 6: Subselecting experience reports by age and sex shows agreement in modeling solutions. We have examined the possibility that the demographic characteristics age and sex may have unduly influenced our modeling results. To this end, we have constructed demographic subgroups by selecting only reports from older or younger individuals, or only from male or female individuals. For each of these subgroups, we have repeated the entire modeling pipeline, which yielded a set of receptor-experience factors for each subgroup. We then computed the similarity of these subgroup-specific modeling solutions based on Pearson's correlation between the estimated model parameters (i.e., elements of the model-derived canonical vectors) obtained from two different demographic subgroups. These supplementary findings confirm that, focusing on certain age or sex strata, our results and scientific conclusions remain virtually identical.



Supplementary Figure 7: The identified receptor-experience factors show only mild links to language complexity or duration of psychedelic experience. We have examined the possibility that the semantic structure of the experience reports or the length of drug experience may have unduly influenced our modeling results. To this end, language complexity was measured based on the number of distinct words that have been used in each experience report, as a proxy for the richness of employed verbal descriptions. The duration of experience was captured based on the usual length of time that a particular drug is known to show effects. We then quantified the association (Pearson's correlation rho) between these indicators and the expression strength of each receptor-experience factor (i.e., model-derived canonical variates).

Supplementary Table 2:
Receptor abbreviations

HTR1A	5HT1A
HTR2A	5HT2A
HTR1B	5HT1B
HTR1D	5HT1D
HTR1E	5HT1E
HTR2B	5HT2B
HTR2C	5HT2C
HTR5A	5HT5A
HTR6	5HT6
HTR7	5HT7
DRD1	D1
DRD2	D2
DRD3	D3
DRD4	D4
DRD5	D5
ADRA1A	Alpha1A
ADRA2A	Alpha2A
ADRA1B	Alpha1B
ADRA2B	Alpha2B
ADRA2C	Alpha2C
ADRB1	Beta1
ADRB2	Beta2
SLC6A4	SERT
SLC6A3	DAT
SLC6A2	NET
NISCH	Imidazoline1
SIGMAR1	Sigma1
TMEM97	Sigma2
OPRD1	DOR
OPRK1	KOR
OPRM1	MOR
CHRM1	M1
CHRM2	M2
CHRM3	M3
CHRM4	M4
CHRM5	M5
HRH1	H1
HRH2	H2
CACNA1C	Ca+Channel
GRIN1	NMDA